URS Operating Services, Inc. START, EPA Region VIII Contract No. 68-W5-0031



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SITE INSPECTION - ANALYTICAL RESULTS REPORT Durango Lead Smelter Durango, Colorado

CERCLIS ID# CO0001399633

EPA Contract No. 68-W5-0031 TDD No. 9602-0001

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ANALYTICAL RESULTS REPORT for FOCUSED SITE INSPECTION

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1.0 INTRODUCTION

This Analytical Results Report (ARR) of the Durango Lead Smelter site in Durango, La Plata County,

Colorado (CERCLIS ID # CO0001399633), has been prepared to satisfy the requirements of Technical

Direction Document (TDD) No. 9602-0001 issued to URS Operating Services, Inc. (UOS) on February

7, 1996, and amended by TDD No. 9602-0001A on February 23, 1996, by the Region VIII office of the

U.S. Environmental Protection Agency (EPA). Field work at the Durango Lead Smelter site was

conducted during the week of April 8 through 12, 1996, and followed the focused Site Inspection (SI)

format (U.S. Environmental Protection Agency (EPA) 1992; EPA 1993). Field sampling activities were

performed in conjunction with the sampling event for the Durango Copper Smelter site (CERCLIS ID#

CO0001399930). A separate Field Sampling Plan and ARR were prepared for the Durango Copper

Smelter site.

Field activities were conducted by UOS and followed the applicable UOS Technical Standard Operating

Procedures (TSOPs) (URS Operating Services, Inc. (UOS) 1995). Field activities specifically included

collecting sixteen environmental samples comprised of five surface water, and five sediment samples, and

three residential soil samples, plus three field Quality Assurance/Quality Control (QA/QC) samples (in

addition to the laboratory matrix spike/matrix spike duplicate (MS/MSD)) (Table 1).

The samples were shipped via Federal Express to contract laboratory program (CLP), routine analytical

services (RAS) laboratories. Samples that were analyzed for volatile organic compounds (VOCs),

semivolatile organic compounds (SVOCs), and pesticides/PCBs were sent to Industrial & Environmental

Analysts of Whippany, New Jersey. Samples analyzed for total metals were sent to SVL Analytical of

Kellog, Idaho. Samples that were analyzed for total organic carbon (TOC) and hardness were sent to

HydroLogic Laboratories, Inc. of Brighton, Colorado. This ARR is intended to be used in conjunction

with the Durango Lead Smelter Field Sampling Plan (FSP) (UOS 1996a) and the Durango Lead Smelter

Sampling Activities Report (SAR) (UOS 1996c) (Appendix A).

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2.0 OBJECTIVES

The purpose of this focused SI was to gather data pertinent to the evaluation of the Durango Lead Smelter

site with regard to the EPA's Hazard Ranking System (HRS) criteria. The specific objectives of this

focused SI were to:

Acquire and utilize non-sampling data (i.e., existing reports, analytical data, or physical

measurements) documenting past releases from the site source areas;

Identify and delineate receptor targets for the surface water pathway;

Document potential releases of site contaminants to targets along the surface water pathway; and

Determine resident populations subject to airborne contamination and collect soil samples.

3.0 BACKGROUND INFORMATION

3.1 SITE LOCATION AND DESCRIPTION

The Durango Lead Smelter site is located in the southeast quarter of Section 30, T. 35 N., R.

9 W., of the Durango West Quadrangle, La Plata County, Colorado. The site is located

southwest of Durango, along the west bank of the Animas River (Figures 1 and 2). The

approximate site coordinates are 37° 16' 03.00" N. latitude and 107° 53' 00.00" W. longitude

(U.S. Geological Survey (USGS) 1963b).

3.2 SITE HISTORY AND PREVIOUS WORK

The Durango Lead Smelter site history extends from 1882 through approximately 1935. The San

Juan Smelting and Mining Company, originally from Silverton, Colorado, began operation at the

site in 1882. In 1887, it was reported to have smelted over \$1 million worth of silver, lead,

gold, and copper, and was the largest smelter in the San Juan Mountains. At the turn of the

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century, all the major smelting corporations in Durango merged to become the American

Smelting and Refining Company at this location. The American Smelting and Refining Company

closed in the mid 1930s, and was dismantled in approximately 1942 (Smith 1980).

The United States Vanadium Corporation built a uranium processing mill at the site of the former

lead smelter operation in 1942. The uranium mill operation and the associated tailings at this

location were the focus of a U.S. Department of Energy (DOE) Uranium Mill Tailings Remedial

Action (UMTRA) that was conducted to clean up the uranium mill tailings deposited along the

Animas River. During the removal of those tailings (from 1986 to 1991), the DOE also removed

the remaining lead smelter stack, building materials and rubble associated with the former lead

smelter. The slag, a by-product of the lead smelter operation, was left at the site because it was

not within the scope of responsibility of the DOE under the UMTRA project. The slag was

graded and the site area was covered with clean backfill and topsoil and vegetated. The west

bank of the Animas River was riprapped to minimize erosion (U.S. Department of Energy (DOE)

1995). The UMTRA activity and associated remediation, while not being the subject of this

focused SI, have played a major role in the redistribution of lead slag wastes.

The Standard Smelting Company operated from 1892 through 1911, approximately three-quarters

of a mile downstream of the Durango Lead Smelter site (Figure 2) (Smith 1980). This site is the

focus of a site investigation by UOS for the EPA under TDD 9602-0007, the Durango Copper

Smelter, CERCLIS ID# CO0001399930.

3.3 SITE CHARACTERISTICS

> 3.3.1 Physical Geography

The Durango Lead Smelter site is located along the west bank of the Animas River. The

site is located approximately 6,520 feet above mean sea level in La Plata County (USGS

1963a). The Durango Lead Smelter site is approximately 15 acres in size, or 653,400

square feet (DOE 1995; UOS 1996a). Site topography is generally flat, with a slight

southeastward slope for drainage toward the Animas River. The slag was graded during

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the UMTRA project before backfill was brought in (Colorado Department of Public Health and the Environment (CDPHE) 1996; UOS 1996a). The site area is situated in a transitional area between the Southern Rocky Mountain Physiographic Province and the

Colorado Plateau Province (Bureau of Reclamation (BOR) 1981).

3.3.2 Geology

The former lead smelter area is underlain by dark gray to black Mancos Shale, which is more than 1,700 feet thick. The Mancos Shale is truncated by the Smelter Mountain

fault south of the site area (Figure 2). The Point Lookout Sandstone and Menefee

Formations outcrop south of the site area and south of the Smelter Mountain fault. At

the site area along the base of Smelter Mountain, the Mancos Shale is directly overlain by a layer of colluvium up to 25 feet thick. The colluvium consists of poorly sorted,

silty soil from Smelter Mountain. Along Lightner Creek and the Animas River, deposits

of river-laid sand and gravel up to 15 feet thick occur over the shale bedrock and under

the colluvium (DOE 1995).

3.3.3 <u>Hydrogeology</u>

Hydrostratigraphic units at the lead smelter site include the consolidated bedrock unit

overlain by unconsolidated surficial deposits. Together the surficial hydrostratigraphic

units (alluvium and colluvium) and the bedrock unit (the uppermost few feet of

weathered, fractured Mancos Shale) directly under the surficial deposits comprise the

uppermost aquifer in the site area. Groundwater occurs in a shallow alluvial aquifer

overlying bedrock at the former lead smelter site. Groundwater at the site moves

predominantly through the alluvium overlying the low-permeability Mancos Shale

bedrock and discharges into the Animas River to the east (DOE 1995).

In gravels above the bedrock, the hydraulic conductivity is estimated to be 7 x 10³

centimeters per second (cm/sec). In the colluvium near the base of Smelter Mountain,

recharge is primarily by runoff from the mountain and by infiltrating precipitation. Sand

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and gravel deposits receive recharge from Lightner Creek and the Animas River (DOE

1995).

3.3.4 Hydrology

Site topography indicates that surface water drainage via overland flow is directed to the

south and east towards the Animas River (USGS 1963b; UOS 1996c). The annual mean

discharge rate of the Animas River at Durango is 822 cubic feet per second (cfs); the

highest annual mean discharge rate is 1,366 cfs (water years 1898-1994). The discharge

rate is recorded at the USGS Durango gauging station approximately one mile upstream

of the site (USGS 1994). Upstream of the site area, the Animas River has a drainage

area of approximately 770 square miles (DOE 1995). The site lies within the Animas

River 100-year flood plain (BOR 1981).

3.3.5 Meteorology

The Durango Lead Smelter site is located in a semiarid climate zone. The mean annual

precipitation as totaled from the University of Delaware (UD) database is 12.83 inches.

The net annual precipitation as calculated from precipitation and evapotranspiration data

obtained from the UD database is 1.61 inches (University of Delaware, Center for

Climate Research, Department of Geography 1986). The 2-year, 24-hour rainfall event

for this area is 1.5 inches (Dunne, Thomas and Luna B. Leopold 1978).

3.3.6 Existing Source Data

The buried slag that remains along the west bank of the Animas River is approximately

25 feet thick and covers approximately 15 acres. The volume of slag has been estimated

at approximately 200,000 cubic yards of material (DOE 1995).

In 1989, 11 slag samples were collected by MK-Ferguson Company and sent to Analytica

Labs in Albuquerque, New Mexico, for EP Toxicity and Total Metals analysis. The slag

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samples were collected from the existing slag (a by-product of the lead smelter operation) at the location that was reclaimed under the UMTRA project. The slag material was not the responsibility of the DOE under the UMTRA Project so the slag material was graded and left during the reclamation of the UMTRA site (DOE 1989).

Surface samples and composite samples (as much as 12 feet below ground surface (bgs)) were randomly collected through visual identification of different slag types. Samples were analyzed according to EPA protocols published in SW-846 Test Methods for Evaluating Solid Waste, Third Edition, 1986. Five samples indicated concentrations of lead (EP toxicity extract) that exceeded the EP Toxicity maximum concentration action level of 5 parts per million (ppm) (highest concentration at 58 ppm) (DOE 1989). Review of the total metals data indicates that some analytes are above the ranges and/or averages, for element concentrations in soils in the conterminous United States. The following table displays the ranges and/or average and the highest concentration of analytes that exceeded these ranges (USGS 1984; DOE 1989).

Highest Concentrations of Analytes in Slag

Analytes	Average or Range (mg/kg)	Highest Concentration in Slag (mg/kg)
Antimony	0.5 -	70
Arsenic	5	480
Barium	500	8,100
Cobalt	. 10	160
Copper	20	5,400
Lead	10	25,000
Mercury	0.01	0.5
Molybdenum	2.5	150
Uranium	1	233
Vanadium	100	910

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4.0 ANALYTICAL DATA

4.1 DATA VALIDATION AND INTERPRETATION

The sample data collected during this focused SI was reviewed using the HRS guidelines for

analytical interpretation (Office of the Federal Register 1990). As reported in the analytical

results in Tables 2 through 6, elevated concentrations of contaminants, as noted by a star (*), are

determined by sample concentrations based on the following:

• If the sample concentrations are greater than or equal to three times the highest

background sample concentrations and greater than or equal to five times the blank

concentrations and greater than or equal to the sample quantitation limit (SQL); and

If not detected in background or blank samples, the sample concentrations are greater

than or equal to the SQL.

All data analyzed by the CLP RAS laboratories were validated by TechLaw, Inc. All data are

acceptable for use as qualified in the data validation report. The complete data validation report,

laboratory forms, and SQL calculations are located in Appendix D.

5.0 SURFACE WATER AND SEDIMENT PATHWAY

5.1 SURFACE WATER AND SEDIMENT SAMPLE LOCATIONS

Global positioning system (GPS) data points were collected in the field to determine exact

geographic sample locations. GPS data are located in the UOS SAR (Appendix A). Please refer

to Figure 2 for sample locations.

The farthest downgradient samples on the Animas River were collected first. Samples were

collected during low flow of the Animas River. The discharge rate of the Animas River during

sampling was approximately 480 cubic feet per second (cfs) as recorded at the Durango USGS

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Station (UOS 1996c). The annual mean discharge rate of the Animas River at Durango is 822

cfs (USGS 1994).

Samples DL-SW/SE-4 were collected along the west bank of the Animas River, approximately

one and one-half miles downstream of the probable point of entry (PPE) and upstream of the

former copper smelter site, downstream of the Santa Rita Bridge (Photo 1). Duplicate surface

water sample DL-SW-5 was collected at this location.

Samples DL-SW/SE-3 were collected from the east bank of the Animas River approximately 0.85

miles downstream of the PPE, and approximately 0.15 miles upstream of the Santa Rita Bridge

near the proposed Bureau of Reclamation pumping station (Photo 2). This location is at the south

end of a city park and several people were observed fishing in this area.

The location of samples DL-SW/SE-2 was based on the location of the slag outcropping from the

former Durango Lead Smelter site along the Animas River (Photo 3). The samples were

collected from the PPE on the west bank of the river approximately three-quarters of a mile

downstream of the Lightner Creek bridge, and just upstream of the Animas River kayak course.

Slag was observed slumping into the Animas River at this location. Sediment samples were

collected from among the cobbles and rocks along the bank.

Samples DL-SW/SE-1 were collected from the east bank of the Animas River, approximately

one-quarter of a mile upstream of the Highway 160 bridge over the Animas River, just north of

the Red Lion Inn (Photo 4). These samples were collected to identify background conditions in

the Animas River. The MS/MSD volume was also collected at this sample location.

Samples LC-SW/SE-1 were collected from the north side of Lightner Creek just before it passes

under Highway 160 (Photo 5). Lightner Creek at this location was approximately twenty feet

wide, five feet deep, and flowing swiftly. These samples were collected to determine the

conditions present upstream in Lightner Creek before it enters the Animas River.

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5.2 SURFACE WATER AND SEDIMENT ANALYTICAL RESULTS

The surface water and sediment sample analytical results are reported in Tables 2 through 6.

Laboratory data and validation comments may be found in Appendix D.

There were no elevated detections of organic compounds in surface water or sediment samples.

Between one and seven semivolatile tentatively identified compounds (TICs) were detected in

DL-SW-1, LC-SW-01, DL-SW-2, primarily consisting of unknown alcohols and unknown

amides. In sediment samples DL-SE-1, LC-SE-1, and DL-SE-2, between four to six semivolatile

TICs were identified, comprising of unknown organic acids and unknown condensation products.

There were no elevated detections of inorganic compounds in surface water samples. In sediment

sample DL-SE-2 (PPE), elevated concentrations of inorganic compounds cadmium (498 ppm),

vanadium (357 ppm), and zinc (28,500 ppm) were detected. The Superfund Chemical Data

Matrix (SCDM) does not provide hazardous substance benchmarks for sediments; however the

associated surface water food chain reference dose screening concentration (RDSC) benchmarks

for cadmium, vanadium, and zinc are 0.68 ppm, 9.5 ppm, and 410 ppm, respectively (EPA

1995b).

Because there were no surface water detections at elevated concentrations, ambient water quality

criteria (AWQC) benchmarks did not need to be readjusted with sample specific TOC and

hardness values; hence this data is not reported in tables 2 through 6. TOC and hardness data

can be found in Appendix D.

5.3 SURFACE WATER/SEDIMENT TARGETS

Municipal drinking water for the city of Durango is supplied from surface water which is

collected from the Florida and Animas Rivers and then is mixed and supplied to the entire

population of Durango. The main surface water intake for the municipal supply is located along

the Florida River, a separate watershed from the Animas River which flows to the south

approximately five miles to the east of the site (Figure 1). The municipal surface water intake

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on the Animas River, at 29th Street in Durango, is located approximately two miles upstream of

the site (Figure 1). Water from the Animas River is used primarily when there is a high demand

on the municipal water supply, generally during the summer months (Durango Public Works

1996).

The Animas River is a recreational fishery (Colorado Division of Wildlife (CDOW) 1996). The

Colorado Department of Wildlife stocks the Animas River with Brown Trout, Rainbow Trout,

and Cutthroat Trout. Native species in the Animas River include the Blue Head Sucker (which

is most abundant), Flannel Mouth Sucker, Mottled Sculpin, and Speckled Dace. Occasionally

the non-native White Sucker is identified in the Animas. The stretch of the Animas from

Lightner Creek (one mile north of the site area) to Purple Cliffs (approximately two and one-half

miles downstream of the Durango Lead Smelter site) was used by approximately 6,200

fisherpersons from April 1990 through August 1990. The fishing limit is two fish, 16 inches or

longer (artificial flies and lures only). The catch rate on this stretch of the Animas is 0.75 fish

per hour or 1.2 fish per fisher per trip, or approximately 3,000 pounds per year (based on an

estimate of 0.4 pounds per fish greater than or equal to a 16-inch fish) (CDOW 1996).

Fisherpeople were observed during the sampling activities (UOS 1996c).

The Animas River, a recreational water body, is used as a kayak course adjacent to the site area

(UOS 1996a). There are no private drinking water intakes identified along the Animas River

downstream of the site (Durango Public Works 1996). Riverine wetlands were identified during

site reconnaissance activities on February 20 and 21, 1996, and during site sampling activities

by UOS personnel (UOS 1996a; UOS 1996c). Willow, cottonwood, and sporadic cattail growth

was noted along the banks of the river during site sampling activities (UOS 1996c). Surface

water and sediment sample locations were collected from areas where wetlands were observed.

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6.0 RESIDENTIAL SOIL EXPOSURE PATHWAY

6.1 RESIDENTIAL SOIL SAMPLE LOCATIONS

Residential soil samples were collected from three properties for this focused SI. Please refer

to Figure 2, Table 1, and the UOS Sampling Activities Report for exact sample locations and

rationale (Appendix A, SAR). GPS data points were collected in the field to determine exact

geographic sample locations and are listed in the UOS SAR (Appendix A). Signed access

agreements were obtained from all property owners before samples were collected. Samples were

taken from areas on the properties that the field personnel or residents believed could potentially

be impacted by airborne contaminants derived from the site.

Three soil samples were collected on April 10, 1996, from various residences in and around

Durango. Sample DL-SO-1 was collected from the back yard of the Camillia Potter residence

at 118-116 County Road 206, approximately two miles north of the site, behind Smelter ...

Mountain (Figure 2). The sample was collected approximately fifty feet behind the main house

and thirty feet north of Lightner Creek (Photo 6). This sample was collected to ascertain

background soil conditions.

Sample DL-SO-2 was collected from the westernmost side of the Canyon Club Mobil Home

trailer park located approximately 1,600 feet southeast (downwind) across the Animas River and

Highway 550 from the former smelter site. The sample was collected from the west side of the

yard of Trailer #8 (Photo 7). The entire trailer park is encircled by a chain link fence, with

individual properties readily accessible to those inside the trailer park. There are approximately

65 people residing in the Canyon Club Mobile Home Park.

Soil sample DL-SO-3 was collected from the southwest corner of the Lauren Hartley property

at 277 E. Third Avenue. This property is located approximately 1,000 feet west (downwind) of

the former lead smelter across the Animas River and Highway 550 (Photo 8). There are

approximately four people residing at 277 E. Third Avenue.

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6.2 RESIDENTIAL SOIL ANALYTICAL RESULTS

In residential soil sample DL-SO-2 (trailer park), lead (181 ppm), and silver (1.7 ppm) were

detected at elevated concentrations. In residential soil sample DL-SO-3 (Hartley residence),

copper (91.5 ppm), lead (302 ppm), manganese (1,310 ppm), and silver (2.1 ppm) were detected

at elevated concentrations. The SCDM provides soil RDSCs for two of the four elevated

compounds, manganese (390 ppm) and silver (390 ppm) (EPA 1995b).

6.3 RESIDENTIAL SOIL TARGETS

The elevated concentrations of inorganic compounds detected in the two soil samples collected

from residences downwind of the site could be a result of historic airborne contamination from

the Durango Lead Smelter site. According to an account of the concentrations of chemical

elements in soils and other surficial materials of the conterminous United States, lead is typically

found at an average 10 ppm, copper is typically found at an average of 20 ppm, and manganese

is typically found at an average of 850 ppm (USGS 1984).

The Durango Lead Smelter site is owned by the state of Colorado. The UMTRA was conducted

by the DOE. The source area (slag) was covered with a minimum of 18 to 24 inches of backfill

and another 6 inches of topsoil during the UMTRA. Slag outcroppings were identified during

the UOS site reconnaissance along the west bank of the Animas River (UOS 1996a). Movement

of the slag by the DOE and the slag outcroppings that are currently present could account for

concentrations of contaminants in nearby residential soils. Currently, the state of Colorado plans

to sell the southern portion of the site (the location of the raffinate ponds) to the Bureau of

Reclamation for the installation of a pumping plant as a part of the Animas/La Plata Wastewater

Management Plan. The northern portion of the property (the former location of the uranium mill

tailings and current location of buried lead smelter slag) is slated for purchase by the city of

Durango (CDPHE 1996).

Access to the site is restricted by fencing and locking gates; however, while the field sampling

crew was obtaining GPS data samples DL-SW/SE-2 (on-site PPE sample), approximately six to

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eight people were seen passing mountain bikes over the gates and riding over the site area (UOS 1996a; UOS 1996c). Approximately 4,143 people reside within one mile of the site, of whom approximately 1,036 reside within one-quarter of a mile (U.S. Department of Commerce (USDOC) 1990). Other potential targets include federally listed threatened or endangered species that potentially may be present in La Plata County. These species include the Black-footed Ferret (endangered), Knowlton's Cactus (endangered), American Peregrine Falcon (endangered), Bald Eagle (threatened), Eskimo Curlew (endangered), and the Southwestern Willow Flycatcher

(endangered). Critical habitat for the Mexican Spotted Owl (threatened) occurs in La Plata

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County (U.S. Fish and Wildlife Service (USFWS) 1996).

7.1 AIR PATHWAY

ADDITIONAL PATHWAYS

Waste slag from the former smelter operation was buried on site during the DOE UMTRA project. Slag outcroppings were observed during the UOS site sampling activities (UOS 1996c). Proximal targets of the site include the total population, 12,430 people, of the city of Durango which is situated within four miles of the site (USDOC 1990). The nearest residences (approximately five houses) are located on the east bank of the Animas River, approximately one-quarter of a mile to the east of the site. The site area has been backfilled with a minimum of 18 to 24 inches of clean backfill and another 6 inches of topsoil, and vegetated by the DOE during the UMTRA (CDPHE 1996). The prevailing wind direction is west-northwest down the river valley (DOE 1995). There are no U.S. Department of the Interior National Wetland Inventory (NWI) maps available for the Durango area. Cumulative wetlands within a four-mile radius of the site were estimated by field personnel during the sampling event to be less than 50 acres (UOS 1996c).

Additional targets within the air pathway include federally listed threatened or endangered species that potentially may be present in La Plata County. These species include the American Peregrine Falcon (endangered), Bald Eagle (threatened), Eskimo Curlew (endangered), the Southwestern Willow Flycatcher (endangered), Black-footed Ferret (endangered), and the

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Knowlton's Cactus (endangered). Critical habitat for the Mexican Spotted Owl (threatened) occurs in La Plata County (USFWS 1996).

7.2 GROUNDWATER PATHWAY

The DOE has documented 20 wells within a two-mile radius of the site, that serve approximately 47 people based on 2.35 persons per household in Durango (DOE 1995; USDOC 1990). The Colorado State Engineers Office has records of 90 household-use-only well permits (that serve approximately 211 people) completed to the alluvium and bedrock within two to four miles of the site (State Engineer's Office 1996; USDOC 1990). While records for these wells exist, UOS attempted to sample the closest of these wells for the Durango Lead Smelter site, only to discover that these residences are all now supplied by municipal water from the Florida and Animas Rivers (Durango Public Works 1996; UOS 1996c). Development and utility policies for the city of Durango currently prohibit the drilling of private wells within the city limits (Durango Public Works 1996).

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8.0 <u>SUMMARY</u>

The Durango Lead Smelter site history extends from 1882 through approximately 1935. The American

Smelting and Refining Company closed in the mid 1930s, and was dismantled in approximately 1942.

The United States Vanadium Corporation built a uranium processing mill at the site of the former lead

smelter operation in 1942. The uranium mill operation and the associated tailings at this location were

the focus of a DOE UMTRA that was conducted to clean up the uranium mill tailings deposited along

the Animas River. The slag, a by-product of the lead smelter operation, was left at the site because it

was not within the scope of responsibility of the DOE under the UMTRA project. The slag was graded

and the site area was covered with clean backfill and topsoil and vegetated.

Field work conducted at the Durango Lead Smelter site during the week of April 8 through 12, 1996,

involved the collection of field samples for laboratory analyses and non-sampling site-specific information.

This information has been used in this report to evaluate the surface water and soil exposure pathways

and associated receptors to determine if the Durango Lead Smelter site potentially impacts human health

or the environment.

Soil samples were collected from three residences, two of which were downwind and within one mile of

the Durango Lead Smelter site. In residential soil sample DL-SO-2 (trailer park), lead (181 ppm) and

silver (1.7 ppm) were detected at elevated concentrations. In residential soil sample DL-SO-3 (Hartley

residence), the following contaminants were detected at elevated concentrations, copper (91.5 ppm), lead

(302 ppm), manganese (1,310 ppm/RDSC of 390 ppm), and silver (2.1 ppm/RDSC of 390 ppm).

Residential soil samples were compared to a biased grab background sample collected from a residence

upwind of site influences. According to an account of the typical concentrations of chemical elements

in soils and other surficial materials of the conterminous United States, average of lead is 10 ppm,

average of copper is 20 ppm, and average of manganese is 850 ppm.

Access to the site is restricted by fencing and locking gates; however, while the field sampling crew was

obtaining GPS data from an on-site sample location, approximately six to eight people were seen passing

mountain bikes over the gates and riding over the site area. Approximately 4,143 people reside within

one mile of the site, of which approximately 1,036 reside within one-quarter of a mile. Other potential

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targets include six federally-listed threatened or endangered species that may be potentially present in La

Plata County. Critical habitat for the Mexican Spotted Owl (threatened) occurs in La Plata County.

There were no elevated detections of inorganic compounds in surface water samples. In the PPE

sediment sample DL-SE-2, elevated concentrations of inorganic compounds cadmium (498 ppm),

vanadium (357 ppm), and zinc (28,500 ppm) were detected. Cadmium and zinc both have the ability to

bioaccumulate and both are above surface water foodchain reference dose concentrations. The SCDM

does not provide benchmarks for sediments. Surface water and sediment samples were collected from

areas that were observed to have wetland vegetation.

Municipal drinking water for the city of Durango is from surface water, primarily collected from a

separate watershed from the Animas River. The municipal surface water intake on the Animas River is

located approximately two miles upstream of the site. The Animas River is a recreational fishery that

is stocked by the Colorado Department of Wildlife, and a recreational water body, which is used as a

kayak course adjacent to the site area. There are no private drinking water intakes identified along the

Animas River downstream of the site.

The DOE has documented 20 wells within a two-mile radius of the site. The Colorado State Engineers

Office has records of 90 household-use-only well permits (that serve approximately 211 people) completed

to the alluvium and bedrock within two to four miles of the site. While records for these wells exist.

UOS attempted to sample the closest of these wells, only to discover that these residences are all now

supplied by municipal water from the Florida and Animas Rivers. Development and utility policies for

the city of Durango currently prohibit the drilling of private wells within the city limits.

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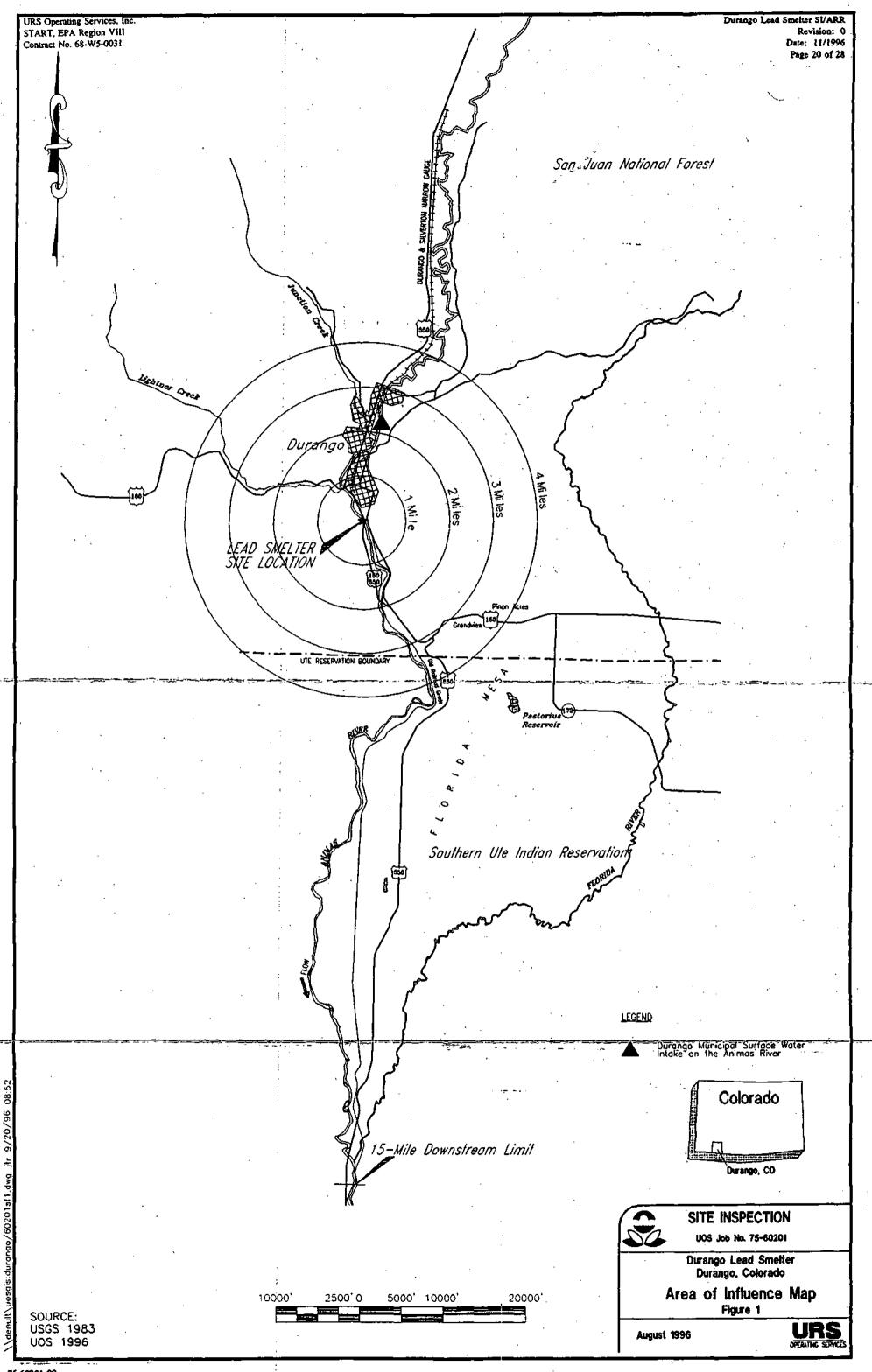
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APPENDIX A Sampling Activities Report

URS OPERATING SERVICES

1099 18TH STREET SUITE 710

DENVER, COLORADO 80202-1908

TEL: (303) 291-8300 FAX: (303) 291-8296

April 23, 1996

Ms. Pat G. Smith
Site Assessment Manager
U.S. Environmental Protection Agency Region VIII
999 18th Street, Suite 500, Mail Code: EPR-ER
Denver, Colorado 80202-2405

Subject:

START, EPA Region VIII, Contract No. 68-W5-0031, TDD #9602-0001

Site Inspection - Durango Lead Smelter site, Durango, La Plata County, Colorado

Sampling Activities Report

Dear Ms. Smith:

The following pages contain the Sampling Activities Report (SAR) for the Durango Lead Smelter site in Durango, La Plata County, Colorado. This report is prepared in partial fulfillment of TDD #9602-0001 and outlines field sampling activities conducted from April 8-12, 1996.

If you have any comments, please call me at (303) 291-8269.

Very truly yours,

URS CONSULTANTS, INC.

Rachel S. Balgie

Rachel Badger

Project Manager

Eric Sist

Eric Scott

Registered Geologist

Enclosures

cc:

L. Durbin/UOS w/o attachments

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SAMPLING ACTIVITIES REPORT FOR DURANGO LEAD SMELTER SITE DURANGO, LA PLATA COUNTY, COLORADO

INTRODUCTION

The Field Sampling Plan (FSP), Revision 1, for the Durango Lead Smelter site was approved by the EPA Site Assessment Manager, Pat Smith, on April 2, 1996. Field activities were conducted at the Durango Lead Smelter site from April 8 through 12, 1996. The URS Operating Services, Inc. (UOS) field sampling team included Rachel Badger (Project Manager), Kim Edelman (Health and Safety Officer), Mark Rudolph (Sampler), and Eric Scott (Sampler).

SAMPLING ACTIVITIES

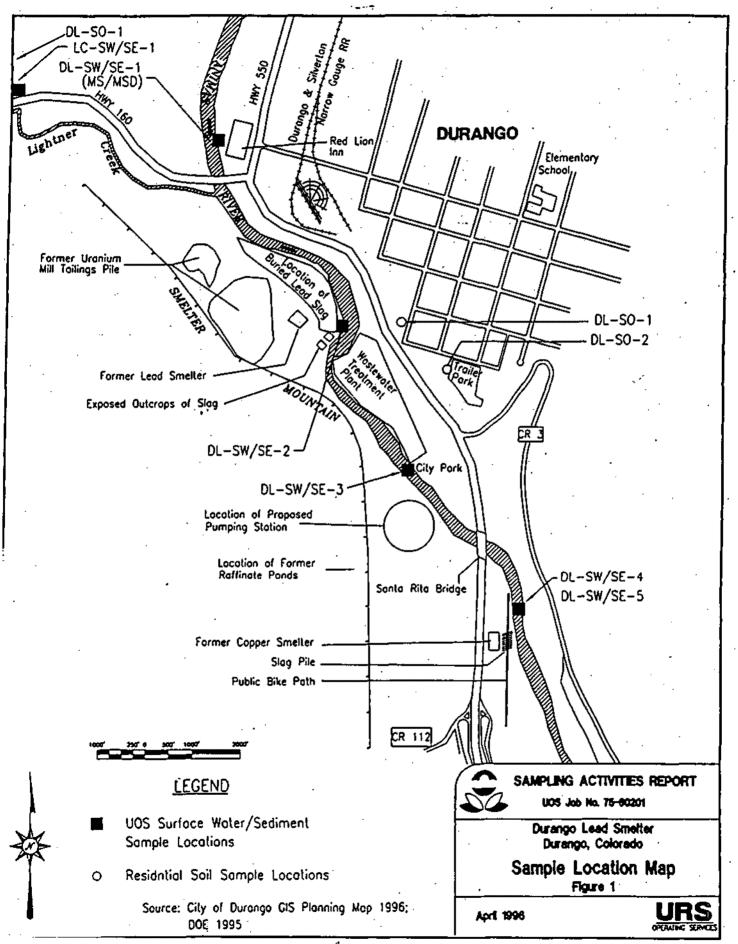
The sampling activities at the Durango Lead Smelter site included the collection of sixteen samples (Tables 1, 2, and 3). Specifically, five surface water samples, five sediment samples, three residential soil samples, and three Quality Assurance/Quality Control (QA/QC) samples were collected during the focused Site Inspection (SI). OA/OC samples included a trip blank (DL-SW-7), rinsate blank (DL-SW-6), and a duplicate surface water sample (DL-SW-5). The field samples were collected from the Animas River, Lightner Creek, and three residences located near the site. All samples were analyzed for total metals. Samples DL-SW/SE-1, DL-SW/SE-2, DL-SW-6, and LC-SW/SE-01 were also analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and pesticides/PCBs. Trip blank DL-SW-7 was analyzed for VOCs. All water samples, with the exception of the rinsate and trip blanks, were also analyzed for total organic carbon (TOC) and hardness. Samples were shipped via Federal Express on April 11, 1996, for organic and inorganic analysis through the U.S. Environmental Protection Agency Contract Laboratory Program (CLP) Routine Analytical Services (RAS) laboratories. The samples were sent to Industrial & Environmental Analysts of Whippany, New Jersey for organic analyses, and to SVL Analytical of Kellog, Idaho for inorganic analyses. Total organic carbon and hardness samples were privately contracted and sent via Federal Express to Hydrologic Laboratories of Brighton, Colorado for analysis.

Tables 1, 2, and 3 of this document contain field data and shipment information for all samples collected at the Durango Lead Smelter site during the SI. The Analytical Results Report (ARR) for the Durango Lead Smelter site will include photographs of sample locations and surrounding areas.

All surface water, sediment and soil sampling was conducted in Level D personal protective equipment. Level D personal protective equipment consisted of safety glasses, chemical resistant steel toed boots, work clothes, and latex gloves.

Equipment used for SI activities were decontaminated by first washing gross particulates off with a scrub brush, followed by a soap and water solution wash, a distilled water rinse, then sprayed with methanol

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Durango Copper Smelter/SAR Date: 04/95 Rev. 0 Page 6 of 7

TABLE 1
Surface Water Field Data
Site: <u>Durango Lead Smelter site</u>, <u>Durango</u>, <u>Colorado</u>

	Samp	ling			Field Date	ı	
Sumple ID	Date	Time	Shipping Date	pH	Conductivity µS/cm³ :	Temperature °F	Comments
DL-SW-1	04-10-96	10:20	04-11-96	6.43	320	47.7	Background sample collected from the east bank of Animas River approximately 0.25 miles upstream from the Highway 160 bridge over the Animas River. MS/MSD was also collected at this location.
DL-SW-2	04-09-96	18:20	04-11-96	6.90	420	53.0	Collected from the west bank of Animas River at PPE. Slag from the lead smelter was observed to be entering the Animas River at this location.
DL-SW-3	04-09-96	17:20	04-11-96	6.73	5,040	56.1	Collected from the west bank of Animas River approximately 0.85 miles downstream from the PPE.
DL-SW-4	04-09-96	16:45	04-11-96	6.60	372	61.4	Collected from the west bank of Animas River approximately 1.5 miles downstream of the PPE.
DL-SW-5	04-09-96	16:45	04-11-96	6.60	372	61.4	Duplicate sample of DL-SW-4,
DL-SW-6	04-09-96	16:00	04-11-96	NA	NA .	NA NA	Rinsate Blank.
DL-5W-7	04-09-96	10:15	04-11-96	NA	NA.	NA	Trip Blank.
LC-SW-01	04-10-96	11:00	04-11-96	6.96	327	48.3	Background sample collected from the north side of Lightner Creek just before it passes under Highway 160.

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Durango Copper Smelter/SAR
Date: 04/95 Rev. 0
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TABLE 2
Sediment Field Data
Site: <u>Durango Lead Smelter site</u>, <u>Durango</u>, <u>Colorado</u>

Sample ID	Sampli Date	ng Time	Shipping Date	Comments
DL-SE-1	04-10-96	10:20	04-11-96	Background sample collected from the east bank of Animas River approximately 0.25 miles upgradient from the Highway 160 bridge over the Animas River. MS/MSD was also collected at this location.
DL-SE-2	04-09-96	18:20	04-11-96	Collected from the west bank of Animas River. This was the location that the lead slag was observed to be entering the Animas River (PPE).
DL-SE-3	04-09-96	17:20	04-11-96	Collected from the west bank of Animas River approximately 0.85 miles downstream from the PPE.
DL-SE-4	04-09-96	16:45	04-11-96	Collected from the west bank of Animas River approximately 1.5 miles downstream of the PPE.
LC-SE-1	04-10-96	11:00	04-11-96	Collected from the north side of Lightner Creek just before it passes under Highway 160.

TABLE 3
Soil Field Data
Site: <u>Durango Lead Smelter site</u>, <u>Durango</u>, <u>Colorado</u>

	Sampl	ing	Shipping	Comments
Sample ID	Date	Time	Date	Comments
DL-50-1	04-10-96	11:35	04-11-96	Background sample collected from the back yard of the Potter residence approximately (lifty feet behind the house and thirty feet north of Lightner Creek.
DL-5O-2	04-10-96	14:02	04-11-96	Sample collected from the westernmost side of the trailer park located southeast (downwind) across the Animas River and Highway 550 from the former smelter site. The sample was collected from the west side of the yard of residence #8.
DL-SO-3	04-10-96	13:55	04-11-96	Sample collected from the southwest corner of the property located at 277 E Third Avenue. This property is located west (downwind) of the former lead smelter across the Animas river and Highway 550.

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TABLE 4
GPS Sample Locations
Site: Durango Lead Smelter site, Durango, Colorado

Sample ID '.	Latitude	Longitude
LC-SW/SE-1	N 37° 16' 15.33	W 107° 53' 42.78
DL-SW/SE-1	N 37° 16' 15.78	W 107° 53' 09.82
DL-SW/SE-2	N 37° 15′ 52.55	W 107° 52' 53.02
DL-SW/SE-3	N 37° 15' 33.72	W 107° 52° 40.19
DL-SW/SE-4	N 37° 15' 27.08	W 107° 52′ 34.11
DL-SW-5	N 37° 15' 27.08	W 107° 52′ 34.11
DL-SO-1	N 37° 16′ 14.57	W 107° 53' 46.64
DL-SO-2	N 37° 15' 46.43	W 107° 52' 39.74
DL-SO-3	N 37° 15' 58.97	W 107° 52' 47.75

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EPA Form 911	,	. 5-91)	Replace	B EPA F	orm (2	075-6), pres	rlovs :	dition	which m	sy be used	- 1	Split Samples	U,«	copted (S	ignaturi	"			•
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	r/	•	tock cock	703-557	2490 (15 557	2490			(Fe	or C	of Custody R Organic CLP Analysis	ecord					24569
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ogional Intor	motion			S	rublar	(Namo))			Airbill Numbe				l		lunn		in Column A)
on-Superion	nd Proni	am	,	/ Sa	inbloi :	K (ک <u>ی د</u> ا اره	lospe	<u> </u>	8/487 5. Ship To	2 <	998 <u>76</u> (201)428-8 cl:En. N	181		1. F 2. F	ICI INO3		Surface Water Ground Water
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ity, State	pre	4 4	ite Spill		RPI I	PA (T	DV .	TI RE	м 🖂	1	Ç.ev	الما الما	. , •	Į.	N.	Not		0. Other (Specify)
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Numbors	trom	Low	Type: Comp/	vative from				High		g Numbors		Number	Sar	npl e	unitate		morg. p. No.	for Dosignated Field OC
(lroin	Box 7	High	Grab	Box 6	VOA	BNA	Post PCB	ARO/ TOX					Colle	oction				0 = Blank S = Spike O = Dupilcate PE = Porturn, Evol. — = Nut a OC Seriole
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	5	1.	G	6			у.			3165,66		V ·	1		n	L		
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A-C70-01411C	SE .									•		1	Decline	d		•		
Blue - Region Copy for Reli	n Copy	Pink • ! uO	SMO Cop	y Whi	Na - Lat	Copy (or Retu	ien to Ra	gion '	Yellow - LAD	SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS							
Copy for his					*							1				-		

W 1-1	1 1	X	1/0	03.557.	s Alexan 2490 - F	15 557	2490		& Unain (Fo	OT CUSTODY H Organic CLP Analysis	lecora			24569
DLS		.ccount 602			Hegior J I		109		4. Date Shippe	Fed EX		ve (E	resor- ative ator in	7. Sample Description (Enter
Hugional Infor	11211(31)				mplor (ial.	Airbill Number			Co	lumn D)	in Calumn A)
Non-Superlun	d Progra	nin		Sa	Mar.	Signalu	ان ملاح سالام		5. Ship To (2.	0)428-8181		3. N	ICI INO3 IaH\$O4 I2SO4	1. Surface Water 2. Ground Water 3. Luachate 4. Hinsate
Site Name Ducange City, State Ducange	olea		Smell Spill	3. ショウ ローSP	Typo o	l Activit	RIFS RD- RA O&M NPLD	CL TRE	EM 628 Ro	when the order of	1	5. C 6. N.	Other (Specify) Ica only Not reserved	5. Sail/Sadiment 6. Oil (Fligh only) 7. Waste (Fligh only) 8. Other (Specily)
CLP Samplo Numbors (Irom labels)	٨	В		D		RAS A	Posv	High only ARO/ TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Number	H Mo/Day/ Year/Time Sample Collection	l Samptor Initials	Corresp. CLP Inorg. Samp. No.	K Enter Appropriate Qualifler for Designated Fleid OC D = Blank S = Spike D = Duplicate PE = Perform, Evid, — = Not & OC Sample
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<u> </u>	1	<u> </u>	10	6			<u>*</u>		8-143180,81	<u> </u>	L	MŁ	1.	RB
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			l				<u></u>			Split Samples	Accepted (Sign	ature)		
MATHEMATICA	H:	•	•		•				vision may be used	· <u>-</u>	Doclined			
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999	OUS URS Operating Services, Inc. HIDROKE POP 18th Street, Suite 710, Denver, CO 80202				OGIC; ATTN: SA	MPLE	CHSTO	מחום	Ch	IAIN	OF (CUSTODY RECORD
PROJECT NOANA	_			SITE MANAG		55			T			
Durang	$\rho \rho b$			Rochel	1 Bodyn	Containers			1	-		
SAMPLERS S	IGNATURE:		_			Į į		3		1		·
		Lym	Edelma	M.		er of (S	chess				
STATION NO.	DATE	TIME	сомр.	GRAB	STATION LOCATION	Number of	70	Har				REMARKS
LC-SW-1	4-10-96]1:00		<u></u>	Surface Water :	_1						Tay # 000712
LC-SW-1	4-10-96	11:00			Surface Water			<u></u>				Tag # 000 711
DESW-1	4-10-96	10:20		/	Surface Water			/				Test 000,702 HSUSD
Drsw-3	4-9-96	17:20		V	Surface Worker	1						Tex# 000708
D1-5W-1	4-10-96	10:20		V	Surfece Water		/				· .	Tuc# 000 701
DL-5W-1	9-10-96	10:20		1 ×	Section Water			<u></u>				Tog 500 704
D:5W-1	4-10-96	10:20		V	Surface Water	1-	1	<u> </u>				Tig# 000703
D1.5W-4	4-9-910	11:45			Surface Water			1×	:			Teg# 0007010
DL-SW- 2	4-9-96	18: 90	9		Surface Water	11		سكسا		 		Teg# 000707.
DF-2m-A	4-9-96	16:45		V	Surface Woter		/					Ty # 100 754
DL-SW-3	11-9-96	17:20	>		Surface Water	1	/				<u> </u>	Tay # 000753
DY-5W- 2	4-9-96	18:21	0	/	Surface Water			<u> </u>	<u> </u>	:	<u> </u>	Tog# 000752
Dr-2m-2	4-9-76	16:45	<u> </u>		Surface Water	<u> </u>					<u> </u>	Tag# 0.0755
BLSU-5	4-7-96	14:45			Surface Water	_ \		/		<u> </u>	<u> </u>	Teg# 000756
					4-11-96				<u> </u>			
5 . <i>1</i>	RELINQUISITED BY: (Signature) DATE TIME RECEIVED BY: (Signature)					1	RELINQU	JISHED	DY: (Sign	ature)		DATE TIME RECEIVED BY: (Signature)
					RECEIVED BY: (Signature)		RELINQ	Heliso	R V. (C:			DATE TIME RECEIVED BY:
·	CONTRACTOR OF COMPANY (SECOND OF						KISISIA Q	GIARCE	n r: failte	murél	-	(Signature)
ILELINQUISI	IED BY: (Signate	arc)		RECEIVED FOR LABORATOR BY: (Signature)	Ÿ	DATE	TIM		MARK: RBILL		ER: 4231759254	

71-50906.00 RSTART\Forms\Custody.Fm.bas White - Original to Accompany Samples

Yellow - UOS Main Office

Pink - UOS Field Office

DN 3

3037

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Durango Lead Smelter
      .SQLS FOR INORGANIC SOIL SAMPLES. SQL = IDL X (FINAL VOLUME: / (SAMPLE WEI
                 URS # and EPA # =
                                       DL-SO-02/MHBG97
                           MATRIX=
                                       SOIL
                         ANALYTES=
                                        Silver
      INSTRUMENT DETECTION LIMIT (IDL) = 4.3 UG/L
                          FINAL VOLUME= 200 ML
                        SAMPLE WEIGHT= 1.00 GRAMS

* SOLIDS= 0.87 (Convert to decimal)
DILUTION FACTOR= 1
                                   SQL= 0.99 UG/G (PPM)
               URS # and EPA # = DL-SO-03/MHBG98
MATRIX= SOIL
ANALYTES= Silver
10
     INSTRUMENT DETECTION LIMIT (IDL) = 4.3 UG/L FINAL VOLUME = 200 ML
                          SAMPLE WEIGHT= 1.00 GRAMS
                               % SOLIDS= 0.90 (Convert to decimal)
                        DILUTION FACTOR=
                                 SQL= 0.96 UG/G (PPM)
                URS # and EPA # = DL-SO-03/MHBG98 MATRIX= SOIL
11
                                      Manganese
                        ANALYTES=
     INSTRUMENT DETECTION LIMIT (IDL) =
                                            2 UG/L
                           FINAL VOLUME= 200 ML
                          SAMPLE WEIGHT= 1.00 GRAMS
                              % SOLIDS= 0.90 (Convert to decimal)
                       DILUTION FACTOR= 1
                                   SQL= 0.44 UG/G (PPM)
```

1801619

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Durango Lead Smelter
    SQLS FOR INORGANIC SOIL SAMPLES. SQL = IDL X (FINAL VOLUME / (SAMPLE WEI
            URS # and EPA # = DL-SE-04/MHDD48
5
                      MATRIX=
                                SOIL
                    ANALYTES=
                                Zinc
    INSTRUMENT DETECTION LIMIT (IDL) = 3.6 UG/L
                      FINAL VOLUME= 200 ML
                     SAMPLE WEIGHT= 1.00 GRAMS
                          % SOLIDS= 0.81 (Convert to decimal)
                   DILUTION FACTOR= 2
                            SQL= 1.78 UG/G (PPM)
             URS # and EPA # = DL-SO-03/MHBG98
MATRIX= SOIL
                    ANALYTES=
                                Copper
   INSTRUMENT DETECTION LIMIT (IDL) =
                     I LIMIT (IDL) = 2.9 UG/L
FINAL VOLUME = 200 ML
                     SAMPLE WEIGHT= 1.00 GRAMS
                         % SOLIDS= 0.90 (Convert to decimal)
                   DILUTION FACTOR=
                                     1
                             SQL= 0.64 UG/G (PPM)
            URS # and EPA # = DL-SO-02/MHBG97
MATRIX= SOIL
                    ANALYTES= Lead
   INSTRUMENT DETECTION LIMIT (IDL) = 0.5 UG/L
                     FINAL VOLUME= 200 ML
                     SAMPLE WEIGHT= 1.00 GRAMS
                      % SOLIDS= 0.87 (Convert to decimal)
                   DILUTION FACTOR= 20
                             SQL= 2.30.UG/G (PPM)
            URS \neq and EPA \neq = DL-SO-03/MH3G98
                     MATRIX=
                                SOIL
                    ANALYTES=
                                Lead
   INSTRUMENT DETECTION LIMIT (IDL) = 0.5 UG/L
                     FINAL VOLUME= 200 ML
                    SAMPLE WEIGHT = 1.00 GRAMS
                         % SOLIDS= 0.90 (Convert to decimal) --
                   DILUTION FACTOR=
                                    80
                              SQL= 8.89 UG/G (PPM)
```

1801619

```
Durango Lead Smelter
    SQLS FOR INORGANIC SOIL SAMPLES. SQL = IDL X (FINAL VOLUME / (SAMPLE WEI
              URS # and EPA # = DL-SE-02/MHDD48
1
                    . MATRIX=
                                   SOIL
                    ANALYTES=
                                   Cadmium
    INSTRUMENT DETECTION LIMIT (IDL) = 4.7 UG/L
                       FINAL VOLUME= 200 ML
                       SAMPLE WEIGHT= 1.00 GRAMS
                           % SOLIDS= 0.81 (Convert to decimal)
                     DILUTION FACTOR= 1
                           SQL= 1.16 UG/G (PPM)
               URS # and EPA # = DL-SE-02/MHDD48
MATRIX= SOIL
                     ANALYTES= Mercury
    INSTRUMENT DETECTION LIMIT (IDL) = 0.1 UG/L
                       FINAL VOLUME= 100 ML
                      SAMPLE WEIGHT= 0.20 GRAMS
                          % SOLIDS= 0.81 (Convert to decimal)
                    DILUTION FACTOR= 1
                              SQL= 0.06 UG/G (PPM)
             URS # and EPA # = DL-SE-04/MHDD50 · MATRIX= SOIL
                     ANALYTES=
                                  Mercury
    INSTRUMENT DETECTION LIMIT (IDL) = 0.1 UG/L
                       FINAL VOLUME= 100 ML
                      SAMPLE WEIGHT= 0.20 GRAMS
                         % SOLIDS= 0.73 (Convert to decimal)
                    DILUTION FACTOR= 1
                               SQL= 0.07 UG/G (PPM)
                     nd EPA # = DL-SE-02/MHDD48
MATRIX= SOIL
ANALYTES= Vanadium
             URS # and EPA # =
    INSTRUMENT DETECTION LIMIT (IDL) = 2 UG/L
FINAL VOLUME= 200 ML
                      SAMPLE WEIGHT= 1.00 GRAMS
                           % SOLIDS= 0.81 (Convert to decimal)
                    DILUTION FACTOR=
                                      1
                                SQL= 0.49 UG/G (PPM)
```

Durango Lead Smelter SQLS FOR INORGANIC WATER SAMPLES. SQL = CRDL X DILUTION FACTOR

> URS # and EPA # =DL-SW-03/MHDD42; DL-SW-05/MHDD44 MATRIX=WATER

ANALYTES=Potassium

CRDL= 5000 UG/L
DILUTION FACTOR= 1.00

SQL= 5000.00 UG/L (PPB)

URS # and EPA # =DL-SW-03/MHDD42; DL-SW-05/MHDD44 MATRIX=WATER ANALYTEŞ=Vanadium

> CRDL= 50 UG/L DILUTION FACTOR= 1.00

> > SQL= 50.00 UG/L (PPB)

START

Superfund Technical Assessment and Response Team - Region VIII



United States
Environmental Protection Agency

Contract No. 68-W5-0031

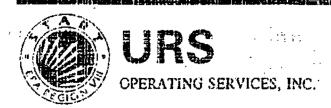
SITE INSPECTION ANALYTICAL RESULTS REPORT

DURANGO LEAD SMELTER Durango, Colorado

APPENDIX D

TDD No. 9602-9001

NOVEMBER 4, 1996:



URS Operating Services, Inc. START, EPA Region VIII Contract No. 68-W5-0031 Revision: 0 Date: 11/1996 Page 21 of 28

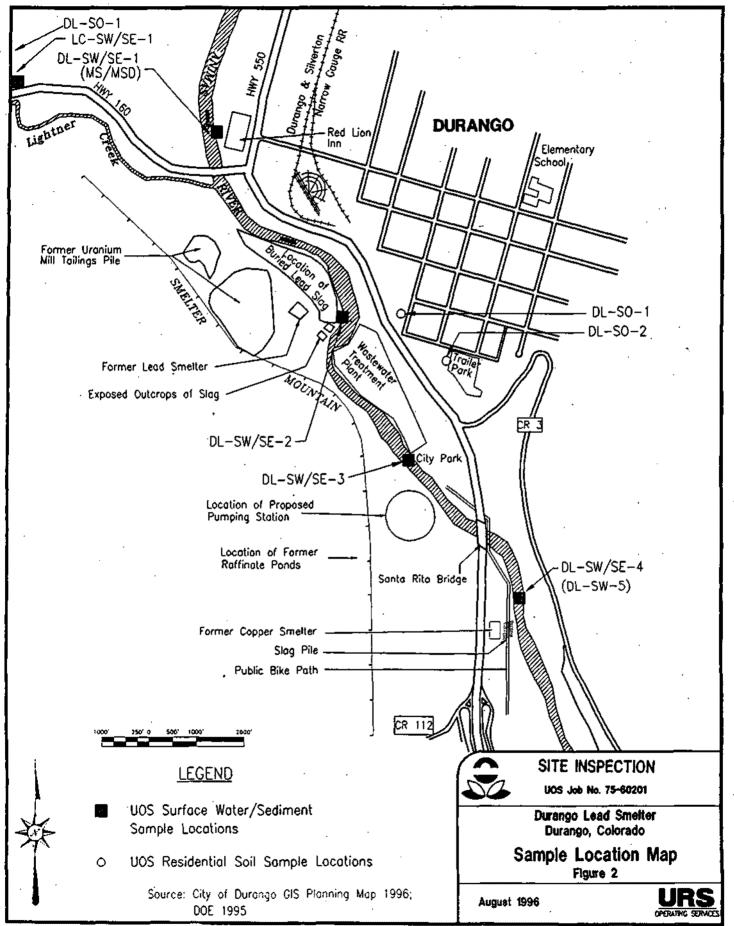


TABLE 1
Sample Locations and Rationale

Matrix	Sample#	Lacation	Rationale
	DL-SW-1 (MS/MSD)	Collected from the east bank of the Animas River, approximately 0.25 miles upgradient of the site PPE.	Document background conditions along the Animas River. The MS/MSD collected to test the precision of lab analytical methods.
	DL-\$W-2	Collected from the west bank of the Animas River at the site PPE.	Test for potential site impacts to Animas River wetlands and fishery.
Surface Water . Samples	DL-SW-3	Collected from the west bank of the Animas River approximately 0.85 miles downstream of the PPE.	Test for extent of site impacts to Animas River wetlands and fishery.
·	DL-SW-4	Collected from the Animas River approximately one and one-half miles downstream from the PPE.	Test for extent of site impacts to Animas River wetlands and fishery.
	LC-SW-1	Background sample collected from Lightner Creek, north of Highway 160 bridge.	Document background conditions on Lightner Creek before it discharges into the Animas River.
	DL-SE-1 (MS/MSD)	Collected from the east bank of the Animas River approximately 0.25 miles upgradient of the site PPE.	Document background conditions on the Animas River. The MS/MSD collected to test the precision of lab analytical methods.
	DL-SE-2	Collected from the west bank of the Animas River at the site PPE.	Test for potential site impacts to Animas River wetlands and fishery.
Sediment Samples	DL-SE-3	Collected from the west bank of the Animas River approximately 0.85 miles downstream of the PPE.	Test for extent of site impacts to Animas River wetlands and fishery.
	DL-SE-4	Collected from the Animas River approximately one and one-half miles downstream of the PPE.	Test for extent of site impacts to Animas River wetlands and fishery.
	LC-SE-1	Background sample collected from Lightner Creek, north of Highway 160 bridge.	Document background conditions on Lightner Creek before it discharges into the Animas River.

Durango Lead Smelter SI/ARR Revision: 0

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TABLE 1
Sample Locations and Rationale

Matrix 38	Sample #	Location	Rationale
Soil Samples	DL-SO-1	Background sample collected from the back yard of the Potter residence, approximately thirty feet north of Lightner Creek in the Smelter Mountain Canyon.	Characterize background conditions in surrounding residential areas. Sample is a biased grab background sample.
	DL-SO-2	Sample collected from the westernmost side of the trailer park located southeast (downwind) across the Animas River and Highway 550 from the smelter site.	Characterize contaminants in residential properties to test for soil exposure threat to residents.
	DL-\$0-3	Sample collected from the southwest corner of the property located at 227 E. 3rd Ave. Property located west (downwind) of the former lead smelter across the Animas River and Highway 550.	Characterize contaminants in residential properties to test for soil exposure threat to residents.
	DL-SW-5	Duplicate of surface water sample DL-SW-4.	Quality Assurance sample to document the ability to collect collocated samples in the field.
QA/QC Samples	DL-SW-6	Rinsate Blank.	Document thoroughness of decontamination process.
	DL-SW-7	Trip Blank.	Document contamination introduced during sample handling and shipping. Volatile organics only.

URS Operating Services, Inc. START, EPA Region VIII Contract No. 68-W5-0031 Durango Lead Smelter SI/ARR Revision: 0 Date: 11/1996

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TABLE 2 Surface Water - Organic Sample Results Concentrations in µg/l (ppb)

UOS Sample ID#: Case #: EPA ID #: Location:	DL-SW-1 24569 HQ931 Collected from Animas River 0.25 miles updgradient of PPE	LC-SW-1 24569 HQ936 Collected from Lightner Creek upgradient of Animas River confluence	DL-SW-2 24569 HQ933 Collected from Animas River at PPE	DL-SW-7 24569 HQ937 VOA Trip Blank
Volatile Organic Compounds	Dilution:	Dilution:	Dilution:	Dilution: 1
TICs	-	-	, -	-
Semivolatile Organic Compounds	Dilution: 1	Dilution:	Dilution:	
TICs	5	7	1	NA
Pesticides	Dilution: 1	Dilution:	Dilution:	
None .	. •	-	•	NA

The analyte was not detected (qualified by laboratory software).

TICs Tentatively Identified Compounds.

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TABLE 3 Sediment - Organic Sample Results Concentrations in ppb

UOS Sample ID#: Case #: EPA ID #: Location: Units:	DL-SE-1 24569 HQ932 Sediment collected from Animas River 0.25 miles upgradient of PPE µg/kg	LC-SE-1 24569 HQ938 Sediment collected from Lightner Creek upgradient of Animas River confluence µg/kg	DL-SE-2 24569 HQ934 Sediment collected from Animas River at PPE pg/kg	DL-SW-6 24569 HQ935 Aqeous QA/QC rinsate sample
Volatile Organic Compounds	Dilution:	Dilution:	Dilution:	Dilution:
TICs	-	= -	-	
Semivolatile Organic Compounds	Dilution: I	Dilution:	Dilution: 1	
Phenanthrene	[44]	[72]	-	~
Fluoranthene	[86]	-		
Chrysene	[54]	-	•	-
Bis(2-Ethylhexyl)Phthalate	[44]	-	-	-
Benzo(b)fluoranthene	[58]	*	•	
TICs	5	6	4	2
Pesticides	Dilution:	Dilution: 1	Dilution:	
delta-BHC	-	[2]		•

The associated numerical value was detected below the CRQL, but greater than the method detection limit and is therefore an estimate (qualified by laboratory software). Presence of the compound is reliable.

The analyte was not detected (qualified by laboratory software).

TICs Tentatively Identified Compounds.

Durango Lead Smelter SI/ARR Revision: 0

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TABLE 4
Surface Water - Inorganic Sample Results
Concentrations in µg/l (ppb)

UOS Sample ID: Case #: EPA ID #: Location:	DL-SW-1 24569 MHDD40 Collected from Animas River 0.25 miles upgradient of PPE	LC-SW-1 24569 MHDD46 Collected from Lightner Creek upgradient of Animas River confluence	DL-SW-2 24569 MHDD41 Collected from Animas River at PPE	DL-SW-3 24569 MHDD42 Collected from Animas River 0.85 miles downstream of, PPE	DL-SW-4 24569 MHDD43 Collected from Animas River 1.5 mile downstream of PPE	DL-SW-5 24569 MHDD44 Duplicate sample of DL-SW-4
Aluminum A	3	4,060	1,990	1,380	1,810	1,860
Antimony S	•	45.5 <i>U</i>	45.5 <i>U</i>	45.5 U	45.5 U	45.5 <i>U</i>
Arsenic A	, ,	0.90 J	0.90 J	0.90 1	[1.2] J	0.90 J
Barium B	, ,	[143]	[64.4]	[57.0]	[60.3]	[62.6]
Beryllium B	1	[0.24]	0.20 <i>U</i>	0,20 <i>U</i>	0.20 U	0.20 U
Cadmium C	•	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
Calcium C	•	73,800	61,300	61,300	60,500	61,600
Chromium C	· · · · · · · · · · · · · · · · · · ·	1.6 UJ .	1.6 UJ	1.6 UJ	1.6 U	1.6 UJ
Cobalt C		3.9 U	3.9 U	4.8 U	3.9 U	3.9 U
Copper C	u 28.3 .	[4.1]	[20.4]	[15.1]	[18.5]	[20.0]
Iron . F	1	. 5,210	2,920	2,140	2,690	2,780
Lead P	b 45.4 J	4.5 UJ	31.8 J	29.5 J	24.1 J	53.8 J
Magnesium · M	g 7,190	17,900	8,960	9,090	8,490	8,670
Manganese · M	n 587	94.1	422	352	447.	450
Mercury H	g 0.17 U	0.15 U	0.15 U	0.11 U	0.13 U	0.15 ป
Nicket N	i 12.4 UJ	12.4 UJ	12.4 UJ	12.4 UJ	12.4 U	12.4 UJ
Potassium	(2,160 ป	[2,730]	2,240 U	[2,750] (5,000)	2,440 U	[2,700] (5,000)
Selenium S	e 0.90 J	· 0.90 J	0.90 J	0.90 J	0.90 J	0.90 J
Silver A	g 4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U
Sodium N	- I	8,400	10,100	12,400	10,600	11,000
Thallium 1	1 0.90 J	0.90 J	0.90 J	0.90 J	1 09.0	0.90 J
Vanadium	2.0 UJ	[9.7]]	2.0 UJ	[2.1] J (50)	2.0 UJ	[2.5] J (50)
Zinc Z	n 341	27.9	257	208	242	331

J/UJ (Validator Qualifier) The associated numerical value is an estimated quantity because quality control criteria were not met. Compound was not detected when denoted with a UJ qualifier.

U (Laboratory Qualifier) The analyte was not detected at reported concentration.

The associated numerical value was detected below the CRDL, but greater than the method detection limit and is therefore an estimate (qualified by laboratory software). Presence of the compound is reliable.

() Sample Quantitation Limit (SQL).

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TABLE 5
Sediment - Inorganic Sample Results
Concentrations in ppm

UOS Sample ID:		DL-SE-1	LC-SE-1	DL-SE-2	DL-SE-3	DL-SE-4	DL-SW-6
Case #:		24569	24569	24569	24569	24569	24569
EPA ID #:	-	MHDD47	MHDD51	MHDD48	MHDD49	MHDD50	MHDD45
Location:		Sediment sample collected	Sediment sample	Sediment sample	Sediment sample	Sediment sample	QA/QC Ageous Rinsate
F 15 15 15		from Animas River 0.25	collected from Lightner	collected from Animas	collected 0.85 miles	collected 1.5 miles	Blank
1		miles upgradient of PPE	Creek updgradient of	River at PPE	downstream of PPE	downstream of PPE	
			Animas River confluence		D P X 2 6 5 热度量	Carried Allert	
Analyte/Abbreviation)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/l
Aluminum	ĀĪ	8,210	6,350	7,070	6,030	6,300	[0.0374]
Antimony	Sb	12.9 U	13.7 U	11.2 U	12.9 <i>U</i>	· 12.4 U	0.0455 <i>U</i>
Arsenic	As	11.2 J	6.6 J	10.7)	. 8.5 J	9.2 J	0.0009 J
Barium	Ba	155	226	281	112	134	0.00057 U
Beryllium	Be	[0.53]	[0.55]	0.33 U	0.37 U	[0.42]	0.0002 <i>U</i>
Cadmium	Cd	4.9	1.6	★ 498 (1.16)	3.6	4.0	0.0047 <i>U</i>
Calcium	Ca	4,070	.75,000	11,600	6,520	9,610	0.0403 <i>U</i>
Chromium	Cr	6.5 J	6.2 J	6.0 J	4.2 J	- 5.0 J	0.0016 <i>U</i>
Cobalt	Co	[11.7]	[7.1]	13.3	[7.8]	[9.7]	0.0039 U
Copper	Cu	130	22.4	284	125	142	0.0029 U
Iron	Fe	20,000	19,400	24,300	15,900	17,200	0.0087 UJ
Lead	Pb	334	21.1	311	226	260	0.0012 UJ
Magnesium	Mg	4,160	9,580	4,250	3,440	3,830	0.0381 U
Manganese	Mn	2,470	197	3,060	1,570	1,800	0.002 U
Mercury	Hg	0.07 <i>U</i>	[80.0]	[0.07] (0.06)	0.07 U	[0.07] (0.07)	0.00015 U
Nickel	Ni	[6.6] J	16.7 J	[9.3] J	[4.2] J	[6.9] 1	0.0124 U
Potassium	. K	1,460	2,080	1,500	[1,020]	[1,080]	0.262 U
Selenium	Se	0.25 J	[0,92] J	0.22 J	0.25 J	0.25 J	0.0009 J
Silver	Ag	3.0	1.3 <i>U</i>	8.7	[1.9]	3.1	[0.0047]
Sodium	Na	[81.1]	[126]	[95.7]	[111]	[84.5]	0.111 U
Thallium	TI	0.25 J	0.27 J	0.22 J	0.25 J	0.25 J	0.0009 J
Vanadium	V	21.8	24.7	★ 357 (0.49)	. 16.2	18.3	0.002 U
Zinc .	Zn	1,000	76.6	★ 28,500 (1.78)	813	972	0.0036 U

J/UJ (Validator Qualifier) The associated numerical value is an estimated quantity because quality control criteria were not met. Compound was not detected when denoted with a UJ qualifier.

U (Laboratory Qualifier) The analyte was not detected at reported concentration.

The associated numerical value was detected below the CRDL, but greater than the method detection limit and is therefore an estimate (qualified by laboratory software). Presence of the compound is reliable.

⁽⁾ Sample Quantitation Limit (SQL).

[★] Sample values are ≥ to the SQL, ≥ 3x background concentrations, and ≥ 5x all blank concentrations.

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TABLE 6
Residential Soil - Inorganic Sample Results
Concentrations in ppm

UOS Sample 1D:		DL-SO-1	DL-SO-2	DL-SO-3	DL-SW-6
Case #:	1	24569	24569	24569	24569
EPA ID #:	* *	MHDD52	MHBG97	MHBG98	MHDD45
Location:		Background sample collected	Soil sample collected from	Soil sample collected from	QA/QC Aqueous Rinsate Blank
**		from residence, near Lightner	trailer park SE from site	residence west of site	
		Creek	(downwind)	(downwind)	
Analyte/Abbreviation		mg/kg	mg/kg	mg/kg	TANK mg/l
Aluminum	Al	8,210	11,700	19,100	[0.0374]
Antimony	Sb	11.6 U	10.4 U	10.1 <i>U</i>	0.0455 <i>U</i>
Arsenic	As	8.2 J	21,4 J	13.1 J	0.0009 J
Barium	Ba	180	219	224	· 0.00057 U .
Beryllium	Ве	[0.54]	[0.63]	[0.79]	0.0002 U
Cadmium	Cq	1.5	3.3	2.7	0.0047 <i>U</i>
Calcium	Ca	21,700	8,850	11,400	0.0403 U
Chromium	Cr	8.7 J	11.9	13.8	0.0016 U
Cobalt	Cò	[6.0]	[7.7]	11.8	. 0.0039 <i>U</i>
Copper	Cu	26.9	47.)	★ 91.5 (0.64) ·	0.0029 <i>U</i>
Iron	Fe	16,600	17,200	23,900	0.0087 UJ
Lead	Pb	52.8	★ 181 (2.30)	★ 302 (8.89)	0.0012 ປປ
Magnesium	Mg	5,680	3,950	6,010	0.0381 U
Manganese	Mn	268	669	★ 1,310 (0,44)	0.002 <i>U</i>
Mercury	Hg	0.34	0.22	0,12	0.00015 U
Nickel	Ni	14.4 J	10.4 Ј	15.1	0.0124 <i>U</i>
Potassium -	κ	2,480	2,930	2,710	0.262 <i>U</i>
Selenium	Se	[0.40] J	[0.25] J	· [0.26] J	0.0009 J
Silver	Ag	1.5 U	★ [1.7] (0.99)	★ [2.1] (0.96)	[0.0047]
Sodium	Na		[80.3]	[250]	. 0.111 U
Thallium	TI	. 0.23 J	0.21 J	0.20 J	0.0009 1
Vanadium	v	24.4	40.8	31.6	0.002 <i>U</i>
Zinc	Zn	143	211	402	0.0036 <i>U</i>

J/UJ (Validator Qualifier) The associated numerical value is an estimated quantity because quality control criteria were not met. Compound was not detected when denoted with a UJ qualifier. Sample data was qualified with a UJ for one or more of the following reasons; low correlation coefficient, negative blank results, low matrix spike %R, and/or low analytical spike %R. Refer to data validation report for more detailed description of each elements qualifications.

U (Laboratory Qualifier) The analyte was not detected at reported concentration.

The associated numerical value was detected below the CRDL, but greater than the method detection limit and is therefore an estimate (qualified by laboratory software). Presence of the compound is reliable.

⁽⁾ Sample Quantitation Limit (SQL).

[★] Sample values are ≥ to the SQL, ≥ 3x background concentrations, and ≥ 5x all blank concentrations.



TECHLAW INC.

PHONE: (303) 763-7188 FAX: (303) 763-4896

June 12, 1996

Ms. Lori Raschke URS Operating Services, Inc. 1099 18th Street, Suite 710 Denver, CO 80202-8296

RE: Transmittal of Data Validation Reports

Dear Ms. Raschke:

Please find the enclosed Validation Report MHBG97 for metals analysis by CLP methodology for the Durango Lead Project.

The report was prepared in accordance to USEPA Region VIII validation formats and requirements.

If you have any questions regarding this report, please contact me at (303) 763-8881.

Yours sincerely, TechLaw, Inc.

Robert J. Thielke Staff Consultant

enclosure

IF: 252-001

CUDY

REGION VIII SUMMARY OF CLP DATA QUALITY ASSURANCE REVIEW INORGANIC METALS

Case/SAS No.	Site	Name	Operable Unit	
24569	Durango I	Lead Smelter -		
RPM Name		1		
Pat Smith	+	۲.	. <u>.</u>	
Contractor Laboratory.	Contract No.	SDG No.	Laboratory TPO/Region	
SVL Analytical, Inc.	68-D5-0138 MHBG97		/VIII	

Data Reviewer <u>Lyle Ryman</u>
Review Completion Date <u>June 7, 1996</u>

Sample ID	Sample Location	Matrix	Analysis	
MHBG97	DL-SO-2	Soil	CLP Metals	
MHBG98	DL-SO-3]		
MHDD40	DL-SW-1	Water	. CLP Metals	
MHDD41	DL-SW-2	7		
MHDD42	DL-SW-3	1	•	
MHDD43	DL-SW-4	7		
WIHDD++	. DL-\$W-5]		
MIHIDD45	DL-SW-6	7 · i		
MHDD46	LC-SW-L	1.		
MHDD47	' DL-SE-1	Soil	CLP Metals	
MHDD48	DL-SE-2	1	w_E	
MHDD49	DL-SE-3	1	•	
MHDD50	DL-SE-4	1	į.	
MHDD51	LC-SE-1] . · ·	<i>:</i>	
MHDD52	DL-SO-I]	•	

TechLaw, Inc.

mhbg97.urs1

DATA QUALITY STATEMENT*

	Data are ACCEPTABLE according to EPA Function (flags) added by the reviewer. Data are UNACCEPTABLE according to EPA Function Data are acceptable with QUALIFICATIONS noted	ctional Guidelines.
Telepho	one/Communication Logs Enclosed? Yes	No X
TPO At	tention Required? Yes NoX	If yes, list the items that require

TechLaw. Inc

minicg97 urs l

^{*} Please see Data Qualitier Definitions attached to the end of this report.

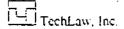
INORGANIC RAS DATA QUALITY ASSURANCE REVIEW REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the document "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," February 1994.

Case 24569, SDG MHBG97 consisted of fifteen (15) samples for CLP RAS inorganic analyses.

The following tables list all data qualifiers added to the data.

				Review
Sample Number	Element	Qualifier	Reason for Qualification	Section
All samples	Thallium	l ni	Low correlation coefficient	l III
MHDD45	Barium) U	Positive blank contamination	IV
MHDD48, MHDD49	Beryllium			
MHDD45	Calcium]		
MHDD42	Cobalt			
MHDD+5	Magnesium	1		
MHDD45, MHDD46	: Lead]		
MHDD40. MHDD41,	Mercury			
MHDD42, MHDD43,		,		
MHDD44, MHDD45,			,	*
WHDD46				•
MHDD40, MHDD41.	Potassium			
MHDD43	1			•
MHDD45	Sodium			
MHDD40, MHDD41.	Chromium	ַ נט	Negative blank results	IV
MHDD42, MHDD44,	1			*
WHDD46				
MHDD45	lron	٠		
MHDD40, MHDD41,	Nickel		·	
MHDD42, MHDD44,				
₩HDD46	•	•		
MHDD40, MHDD41,	Vanadium			
MHDD43				
MHBG97, MHDD47,	Nickel	. 1		
WHDD48, WHDD49,		•		
MHDD50, MHDD51.				
MHDD52				
MHDD47, MHDD48,	Chromium			
MHDD49, MHDD50,				
MHDD51, MHDD52				
MHDD42, MHDD44,	Vanadium			•
MHDD46	١		<u> </u>	



mhbg97 urs l

Sample Number	Element	Qualifier	Reason for Qualification	Review Section
All samples	Arsenic	1/U1	Low matrix spike %R	VIII
MHDD40, MHDD41, MHDD42, MHDD43, MHDD44, MHDD45, MHDD46	Lead	ı		
All samples	Selenium	J/UJ	1	
MHDD40, MHDD41, MHDD42, MHDD43, MHDD44, MHDD46, MHDD47	Selenium	UI	Low analytical spike %R	XI
MHDD51, MHBG97, MHBG98	Selenium	1		
MIHBG98, MIHDD51	Arsenic	J	Low correlation coefficient MSA	XI

INORGANIC RAS METALS DATA QUALITY ASSURANCE REVIEW

	/ Number <u>ILMO4.0</u>	RAS Ir	iorganic Metals Data C	ompleteness Checklist
<u>P</u>	Cover Sheet/Transmittal	Letter (one per data	package shipment)	:
<u>P</u>	Case Narrative	*** ****	:	
P	Forms			•
	P Cover Page	•		
		s Data Sheets (Form	i D	-
	P Initial and Continu		ification Results (Form	24)
	P CRDL Standard f			
	P Blank Analysis Re		··· / ·	
	P ICP Interference (Check Sample Resul	ts (Form 4)	•
	P Spiked Sample Re	ecovery Results (For		
	PPost Digest Spike	d Sample Recovery	Results (Form 5B)	
	P Inorganic Analysi P Initial and Continu P CRDL Standard f P Blank Analysis Re P ICP Interference (P Spiked Sample Re P Post Digest Spike P Duplicate Sample P Laboratory Control P Standard Addition			•
	P Laboratory Contro		'oεm 7)	
	P Standard Addition			,
	P ICP Serial Dilution			
		ion Limits (Form 10		
	P ICP Interelement		rorm (IA, IIB)	•
	P ICP Linear Range		•	
	P Preparation Log (IP Analysis Run Log			
-	P Full Inorganics Co		SF) Inventory Sheet (F	orm DC-2)
_P	_Raw Data		· · · · · · · · · · · · · · · · · · ·	
	P ICP Raw Data	•	,	
	NA Flame AA Raw Da			*
	P Graphite Furnace			
	P Mercury Raw Data		1	
	NA Cyanide Raw Data	l .		
D	Samula Dinastian Laus			
-	_Sample Digestion Logs _PICP/Flame Digestion	on Logs	•	
	P Graphite Furnace I	Digestion Logs	•	•
	P Mercury Digestion		•	•
	NA Cyanide Distillation	n Logs		
		-		
P	Standard Preparation Logs	5		
P	Standard Source and Expir		tion dates not included)	
_ <u>P</u>	Percent Solids Calculation	s (Solids only)	•	
P P P	_COC Records			
<u> </u>	_Sample Description			
	KEV.			•
	KEY:	*	•	
	P = Provided in origin	nal data nackade, as	required by the SOW	,
	R = Provided as Resu		required by the 50 m	•
			e or as resubmission	
•	NR = Not required und		o or no readjointalion	
		this data package o	r analysis	
			<i>y = =</i>	
	:		+	
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INORGANIC RAS METALS DATA QUALITY ASSURANCE REVIEW

I. DELIVERABLES			
All deliverables were present	as specified in	n the statement of work.	
Yes X	·	_	•
Comments:	•		•
None.			
• .			•
II. HOLDING TIMES	•	•	
All CLP-SOW holding times	were met.		
Yes X No			
Comments:			
None.			
All 40 CFR Part 136 technica	l holding times	s were met.	
Yes X No			
Comments:			
None.			
III. INSTRUMENT CAL	LIBRATIONS	S: INITIAL AND CO	NTINUING STANDARDS
Initial instrument calibrations specified control limits listed i	n the functions	al guidelines.	quirements and met the
Yes No _	<u>X</u>		
The instruments were calibrate	ed daily and ea	ach time they were set u	o
Yes X No	· .		
The instruments were calibrate		lank and the appropriate	number of standards.
Yes X No			
	•		•

Comments:

The thallium analysis initial calibration correlation coefficient was calculated to be less than 0.995.

Analyte	Correlation Coefficient	Associated Sample	Qualifier
Thallium	0.9887	MHBG97, MHBG98, MHDD40.	UJ
		MHDD41, MHDD42, MHDD43,	
•		MHDD44, MHDD45, MHDD46,	
•		MHDD47, MHDD48, MHDD49.	•
	}	MHDD50, MHDD51, MHDD52	

IIIa. Initial and continuing calibration verification standards (ICV and CCV, respectively) were performed according to SOW requirements and met specified control limits listed in the functional guidelines.

Yes	ì	No_	Х
-----	---	-----	---

The calibration verification results were within 90-110% recovery (80-120% for mercury and 85-115% for cyanide).

		•		
Yes		No	· V	
1 62		: 10		

The continuing calibrations standards and blanks were run at 10% frequency or every 10 samples.

Yes	X	•	No
			*

Comments:

None.

Analyte	ICV/CCV	% R	Associated Sample	Qualifier
Sodium	CCV6	113	None	NA

IIIb. The CRDL	standards for IC	P and/or AA met contract requirements.	
Yes X	No		
	nning and the en	times the CRDL or the IDL (whichever is greater) vid of each sample run, or at a minimum of twice per	
Note: A CRI analys	sis is not require	d for Al, Ba, Ca, Fe, Mg, Na, and K.	
Yes X	. No		
		were analyzed at the beginning of each sample run, o t, whichever was more freugent.	rata
Yes X	No		
	i		
The CRI and/or the	CRA were analy	zed after the ICV	
Yes X	No		٠
Comments:			
None.		•	
,			
	1		
IV. LABORATO	ORY/PREPAR	ATION BLANK ANALYSIS RESULTS	,
		blank (ICB and CCB, respectively) analyses were peresults met specified control limits.	erformed
YesX	No		
Comments:			
None.		•	•
rvone.			
A laboratory prepara results met specified		sis was performed according to SOW requirements a	nd .
Yes X	No	•	-
Comments:			
None.			
•			
-			
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Contamination was detected in the preparation and/or calibration blanks as summarized in the following table:

	T	Concentration Found	CRDL	5° Blank	Sample	Qualifier/
Biank !D	Analyte	in the Blank (ug/L)	(ug'L)	Conc. (ug/L)	Affected	Adjustment
CCB3	Barium	0.7	200	3.5	MHDD45	U
CCBI	Calcium	24.2	5000	121		"
CCB3	Magnesium -	37.2	5000	186		
ICB	Lead	1.7	3	8.5		
CCB3	Beryllium	0.3	5 '	1.5	MHDD48, MHDD49	Ü
PBS	Bervllium	-0.2138	5	-1.1	None	l NA
ICB	Chromium	-6.9	10	-34.5	MHDD40, MHDD41.	UJ
					MHDD42, MHDD44,	•
				1	MHDD46	
ICB	Chromium	-6.9	10	-34.5	MIHDD47, MIHDD48.	- J
			•		MHDD49, MHDD50,	,
				1 .	MHDD51, MHDD52	
CCB3	Cobalt	4.3	50	21.5	MHDD42	U.
ICB	Iron	15.4	100	-77.0	MHDD45	٠ ل <u>ا</u>
CCB2	. Mercury	0.2	0.2	- 1.0	MHDD40, MHDD41.	U .
		*			MHDD42, MHDD43,	
					MIHDD44, MIHDD45,	
	-				MHDD46	
PBW	Nickel	-15.3	+0	-76.5	MHDD40, MHDD41.	Ü
]					MHDD42, MHDD44,	
<u>, </u>	.				MHDD46	
CCB6	Nickel	-13.2	40	-66.0	MHBG97, MHDD47,	J
			4	·	MHDD48, MHDD49.	
				·	MHDD50, MHDD51.	
		.			MHDD52	1
CCB+	Potassium	537.3	5000	2690	MHDD40, MHDD41.	υ . {
· ·					MHDD43	
PBW	Sodium	50.4	5000	252	MHDD45	ប
CCB6	Vanadium ,	-2.6	50	-13.0	MHDD40, MHDD41,	, UI {
					MHDD43	
CCB6	Vanadium	-2.6	30	-13.0	MHDD42, MHDD44,	1
					MHDD46	
1CB	Lend	1.7	<u>;</u>	8.5	NHDD46	<u> </u>
CCBI	Arsenic	1.3	Įΰ	6.5	None	NA
PB5	Lead	0.81	3	4.1	.	1
CCB3	Lead	1.8	3 3	9.0		. 1
CCB1	Lead	1.5		7.5		



V. ICP INTERFERENCE CHECK SAMPLE

The ICP interference check sample (ICS) was run twice per eight hour shift and/or at the beginning and end of each sample set analysis sequence (whichever is more frequent), with the interferences properly corrected for (as defined in the SOW).
Yes X No
Comments
None.
VI. LABORATORY CONTROL SAMPLE (LCS)
The LCS analyses were performed according to SOW requirements and the results met specific control limits
YesX No
Comments:
None.
VII. DUPLICATE SAMPLE ANALYSIS
Duplicate sample analyses were performed according to SOW requirements and results met specific control limits.
Yes _ X No
Comments:
None.
VIII. MATRIX SPIKE ANALYSES
Matrix spike analyses were performed according to SOW requirements and results met recommended recovery and precision limits.
Yes No _X

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Comments:

Percent recoveries that do not meet the matrix spike criteria are summarized in the following table.

Sample ID	Analyte	MS % Recovery	Sample Affected	Qualifier
7/IHIDD+0	Arsenic	70.7	MHDD40, MHDD43	1 1
	Arsehic	70.7	MHDD41, MHDD42.	UI
			MHDD44, MHDD45,	
	;	<u> </u>	MHDD46	
	Lead	14.3	MHDD40, MHDD41,]]
1	<i>7-</i>		MHDD42, MHDD43,	
	•		MHDD44, MHDD45,	٠
			MHDD46	
	Selenium	63.7	MIHDD40, MIHDD41,	UJ
'			MHDD42, MHDD43,	
			MIHDD44, MIHDD45,	•
,			MHDD46	
MHDD+7	Arsenic	10.5	MIHBG97, MIHBG98.	J
(MHDD47, MHDD48.	
•	*		MIHDD49, NIHDD50,	r
·		<u> </u>	MHDD51, MHDD52	
	Selenium	73.5	MHBG97, MHBG98	
	Selenium	73.5	MIHDD47, MIHDD48,	្រា
		<u> </u>	MHDD49, MHDD50	
	Selenium	73.5	MHDD51, MHDD52	J

IX. ICP POST DIGESTION SPIKE RECOVERY

Post digestion spike re results met recommend	ecovery analyses we ded recovery and p	ere performed accor recision limits.	rding to SOW requ	iirements and
Yes X	No:	· 		
Comments:		•	•	
None.		•		
	•			
X. SERIAL DIL	UTION	,		
Serial dilution analyses recommended percent		ecording to SOW re	equirements and re	sults met -
Yes X	No			
Comments:				· ·
None	1 -	-		

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XI. GRAPHITE FURNACE ATOMIC ABSORPTION

Graphite furnace atomic absorption analyses (duplicate injections, QC spike recoveries, method of
standard additions, etc.) were performed according to SOW requirements and results met
recommended recovery and precision limits.

Y	es	 •	No	_X

Comments:

Samples for which MSA analysis was required but not performed or MSA results did not meet criteria are summarized in the following table:

Analyte	Correlation Coefficient	Sample Affected	Comment	Qualifier
Arsenic	0.9928	MHBG98	Second run 0.9880	J
		MHDD51	Second run 0.9928	1

Sample results that do not meet the analytical spike criteria for GFAA are summarized in the following table:

Analyte	%R	Sample Affected	Comment	Qualifier
Selenium	67.5	MHDD40		C1
	68.1	MHDD41	•	
	67.5	NIHDD42		
•	63.7	MHDD43		
\mathbf{v}_{i}	67.5	7/HDD41		
•	79.4	MHDD46		
	61.0	MHDD47		
	77.2	MHDD51		
• •	36.5	MHBG97		
·	57.6	MHBG98		
- Selenium	113	MHDD45	Non-detected result	None
Thallium	116	MHDD45	Non-detected result	None

XII. INSTRUMENT DETECTION LIMIT (IDL)

Quarterly IDLs were	provided and all IDL met contract requirements.
Yes X	No
Comments:	•
None.	

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Interelement corrections for ICP were reported. Yes X No Comments: None. XIV. LINEAR RANGE VERIFICATION ANALYSIS Linear range verification analysis was performed and results were within control limits.
None. XIV. LINEAR RANGE VERIFICATION ANALYSIS Linear range verification analysis was performed and results were within control limits.
None. XIV. LINEAR RANGE VERIFICATION ANALYSIS Linear range verification analysis was performed and results were within control limits.
Linear range verification analysis was performed and results were within control limits.
Yes <u>X</u> No
Comments:
None
XV. ADDITIONAL COMMENTS OR PROBLEMS/RESOLUTIONS (not addressed above)
The temperature of samples MHDD40, MHDD41, MHDD42, MHDD43, MHDD44, MHDD45, MHDD46, and MHDD47 upon receipt was 1°C. The temperature of sample MHDD48, MHDD49, MHDD50, MHDD51, MHDD52, MHBG97, and MHBG98 was not recorded on the chain-of-custody records.
Time between the last sample and CCV4 exceeds least time between samples.
Cyanide analysis was not required nor performed for this data package.

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REGION VIII

DATA QUALIFIER DEFINITIONS

For the purpose of data validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

General Qualifiers for use with Organic Data

- R Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.
- J The associated numerical value is an estimated quantity because the Quality Control criteria were not met.
- UJ The reported quantitation limit is estimated because Quality Control criteria were not met. Compound was not detected.

TechLaw, Inc.

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TECHLAW INC.

PHONE: (303) 763-7188 FAX: (303) 763-4896

June 12, 1996.

Ms. Lori Raschke URS Operating Services, Inc. 1099 18th Street, Suite 710 Denver, CO.80202-8296

RE: Transmittal of Data Validation Reports

Dear Ms. Raschke:

Please find the enclosed Validation Report HG931 for volatile, semi-volatile, and pesticide analyses by CLP methodology for the Durango Lead Project.

The report was prepared in accordance to USEPA Region VIII validation formats and requirements.

If you have any questions regarding this report, please contact me at (303) 763-8881.

Yours sincerely, TechLaw, Inc.

Robert J. Thielke Staff Consultant

enclosure

IF: 252-001

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INORGANIC	ANALYSES	DATA	SHEET

EPA	SAMPLE	NO
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	•	* *			•		MHBG9	97 !
Lab	Name:	SVL_ANALYTIC	AL_INC	Conf	ract: 68	3-D5-0138	•	
Lab	Code:	SILVER	Case No.:	24569_	SAS No.:	***************************************	SDG No.:	MHBG97

Matrix (soil/water): SOIL_ Lab Sample ID: MHBG97

Level (low/med): LOW__ Date Received: 04/12/96

% Solids: __87.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

1	1	1 •	T	1		t
CAS No.	Analyte	Concentration	С	Q	М	
7429-90-5	Aluminum	11700	-		P	! .
7440-36-0	Antimony		Ū		P	1
7440-38-2	Arsenic	21.4		SN	F	ijŢ
7440-39-3	Barium -	219	-		P	-
7440-41-7	Beryllium	0.63	B		P	į
7440-43-9	Cadmium	3.3		* .	P	
7440-70-2	Calcium	8850	- i		P	į
7440-47-3	Chromium	11.9	-		P	į
7440-48-4	Cobalt	7.7	B		P	•
7440-50-8	Copper	47.1	į		P	İ
7439-89-6	Iron	17200	-		P	ĺ
7439-92-1	Lead	181	-	,	F	
7439-95-4	Magnesium	3950			P	
7439-96-5	Manganese	669;			P	
7439-97-6	Mercury	0.22	_		CV	
7440-02-0	Nickel	10.4	_!		P_	J
7440-09-7	Potassium;	2930			Ď	
7782-49-2	Selenium_	0.25	В	WN	F_	J
•	Silver	1.7	B		P_	
,	Sodium	80.3;	•		P_	
	Thallium_	0.21	U		F_	J
7440-62-2	Vanadium_	40.8	_!	· !	P_	
7440-66-6	Zinc	211	_	!	P_	
	Cyanide		_!	! !	NR	
		· · · · · · · · · · · · · · · · · · ·		I	!	

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Color Before:	BROWN	Clarity Before:	Te	exture: M	EDIUM
Color After:	YELLOW	Clarity After:	A:	rtifacts: _	
Comments:					
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				NI.	
	· · · · · · · · · · · · · · · · · · ·			<u>" </u>	
		FORM I - IN		IL	M04.0

EPA	SAMPLE	NO.
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	_		
INORGANIC	ANALYSES	DATA	SHEET

MHBG98

Lab Name: SVL_ANALYTICAL_INC.____ Contract: 68-D5-0138

Lab Code: SILVER Case No.: 24569 SAS No.: ____ SDG No.: MHBG97

Matrix (soil/water): SOIL_

Lab Sample ID: MHBG98

Level (low/med): LOW___

Date Received: 04/12/96

% Solids:

90.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

		*				
CAS No.	Analyte	 Concentration	c	Q	М	
7429-90-5	Aluminum	19100	-	l	P	
7440-36-0	Antimony	10.1	Ū	į	P	į
7440-38-2	Arsenic	13.1		+N	F	J
7440-39-3	Barium	224	_	i — —	P	i
7440-41-7	Beryllium	0.79	B	į -	P	į
7440-43-9	Cadmium	2.7		*	P	i
7440-70-2	Calcium	11400	_		P	į
7440-47-3	Chromium	13.8	_		P	į
7440-48-4	Cobalt	11.8	-		P	į
7440-50-8	Copper	91.5	_		P	ĺ
7439-89-6	Iron	23900	- i		P	i
7439-92-1	Lead	302		\$	F	i •
7439-95-4	Magnesium	6010	_		P	
7439-96-5	Manganese	1310	-		P .	٠,
7439-97-6	Mercury	0.12	-		CV	
7440-02-0	Nickel	15.1	-		P	İ
7440-09-7	Potassium	2710	- i		P	
7782-49-2	Selenium_	0.26	B	MN	F_	J
7440-22-4	Silver	2.1	B		P_	;
7440-23-5	Sodium	250	B¦		P_	
7440-28-0	Thallium	0.20	U¦		F_	5
7440-62-2	Vanadium_	31.6¦	_ !		P_	
7440-66-6	Zinc	402	_ !		[P]	i I
	Cyanide		_!		NR	
			_ [· · · · · ·	

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BROWN

Clarity Before: _

Texture: MEDIUM

Color After:

YELLOW

Clarity After:

Artifacts:

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FORM I - IN

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INORGANIC	ANALVSES	בדבת	CHEEN
T1407/03274TC			عد صد دد ک

EPA	SAMPLE	NO
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		•		1	•			MHDD40
ab	Name:	SVL	_ANALYI	rical_i	NC.	. Contract:	68-D5-0138	

Lab Code: SILVER Case No.: 24569_ SAS No.: _____ SDG No.: MHBG97

Matrix (soil/water): WATER Lab Sample ID: MHDD40

Level (low/med): LOW___ Date Received: 04/12/96

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

						
CAS No.	Analyte	Concentration	c	Q	М	} ! ! !
7429-90-5 7440-36-0	Aluminum_ Antimony_	2390 45.5	Ū	1	P P	
7440-38-2 7440-39-3	ArsenicBarium		B	N	F_	J
7440-41-7	Beryllium	0.20	:		P_ P	: ! !
7440-43-9 7440-70-2	Cadmium Calcium	4.7 53800	U	i	P_	
7440-47 - 3	Chromium_ Cobalt	1.6	•		P_	UГ
7440-50-8	Copper	28.3	_		P	
7439-89-6 7439-92-1	Iron Lead	4420		SN	P F	J
7439-95-4	Magnesium	7190	_		p	
7439-96-5 7439-97-6	Manganese Mercury	587 0.17	B		ĈΨ	u
7440-02-0 17440-09-7	Nickel	12.4	U B		P_	uf u
7782-49-2	Selenium_	0.90	บ	wn	F_	7
7440-22-4	Silver Sodium	9070	U 1		P_ P_	
7440-28-0	Thallium_ Vanadium	0.90			F-	J
7440-66-6	Zinc	341	-		P_	
	Cyanide		-	[NR	
	·				· · · ·	

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Color Before:	COLORLESS	Clarity Before:	CLEAR_	Texture:	-
Color After:	COLORLESS	Clarity After:	CLEAR_	Artifacts:	
Comments:			•		•
	*				

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INORGANIC	ANALYSES	DATA	SHEET

EPA SAMPLE N	Ю	,

MHDD41

Lab Name: SVL ANALYTICAL INC. Contract: 68-D5-0138

Lab Code: SILVER

Case No.: 24569 SAS No.: SDG No.: MHBG97

Matrix (soil/water): WATER

Lab Sample ID: MHDD41

Level (low/med):

Date Received: 04/12/96

% Solids:

0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

							
	CAS No.	Analyte	Concentration	С	Q	M.	
	7429-90-5	Aluminum	1990	-		P	1
	7440-36-0	Antimony	45.5	ָיַ װ	1	P	1
	7440-38-2	Arsenic	0.90	U	N	F	J
	7440-39-3	Barium	64.4	₿	i —	P	1 -
	7440-41-7	Beryllium	0.20	ับ		P	ĺ
i	7440-43-9	Cadmium	4.7	7		P	į
	7440-70-2	Calcium	61300			P	į
i	7440-47-3	Chromium	1.6	Ū		P	145
i	7440-48-4	Cobalt	3.9	U		P	
i	7440-50-8	Copper	20.4			P	į
	7439-89-6	Iron	2920	_		P	į
į	7439-92-1	Lead	31.8	_	SN	F	J
i	7439-95-4	Magnesium	8960			P	i
į	7.439-96-5	Manganese	422	-		P -	į
:	7439-97-6	Mercury	0.15	B		c⊽	u
	7440-02-0	Nickel -	12.4	•		Р	иJ
1	7440-09-7	Potassium	***************************************	В		p ⁻	u
:	7782-49-2	Selenium	0.90	- ,	WN	F	J
į	7440-22-4	Silver	4.3	•		p ⁻	
į	7440-23-5	Sodium	10100			P	
1	7440-28-0	Thallium	0.90	บ		F	J
į	7440-62-2	Vanadium	2.0			P-	4-
i	7440-66-6	Zinc	257	-		p-	
ţ		Cyanide		- :		NR	
į				-			
ŧ		·		'			,

LR 4/2/91

Color Before: COLORLESS

Clarity Before: CLEAR_

Texture:

Color After: COLORLESS

Clarity After: CLEAR_

Artifacts:

Comments:

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INORGANIC	ANALYSES	DATÁ	SHEET

EPA SAMPLE N	NO
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Lab Name: SVL ANALYTICAL INC. Contract: 68-D5-0138

Lab Code: SILVER Case No.: 24569 SAS No.: SDG No.: MHBG97

Level (low/med): LOW_

Matrix (soil/water): WATER

Lab Sample ID: MHDD42

Date Received: 04/12/96

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L_

1	1	1	ī	1	1	ſ
CAS No.	Analyte	Concentration	c	Q	М	
7429-90-5	Aluminum	1380	!-	! ———	P	!
7440-36-0	Antimony	45.5	Ū	i ———	P	
7440-38-2	Arsenic	0.90			F	j
7440-39-3	Barium	57.0	,	i — —	P	
7440-41-7	Beryllium	0.20	•	<u> </u>	P	r
7440-43-9	Cadmium	4.7	:		P	į
7440-70-2	Calcium	61300	,		P	į
7440-47-3	Chromium	1.6	_		P .	75
7440-48-4	Cobalt	4.8	В		P	u
7440-50-8	Copper	15.1			P	i –
7439-89-6	Iron	2140			P	į
7439-92-1	Lead	29.5	_	SN	F	J
7439-95-4	Magnesium	9090	_		P	1
7439-96-5	Manganese	352	_		P	٠.
7439-97-6	Mercury	0.11	B	,	cv	ļu.
7440-02-0	Nickel	12.4	U	-	P	UJ
7440-09-7	Potassium	2750	В		P	
7782-49-2	Selenium	0.90	U	WN	F	Ĵ
7440-22-4	Silver_	4.3	U		Ρ_	
7440-23-5	Sodium	12400			P_	
7440-28-0	Thallium	0.90	Ū		F_	1 1
7440-62-2	Vanadium	2.1	B¦		P_ (J
7440-66-6	Zinc	208	1		P_	
·	Cyanide	·	_		NR	! :
			_			

	41		
12	7//	2/9	į

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	C J		E 2					()		_	-	

COLORLESS

Clarity Before: CLEAR_ Texture:

Color After:

COLORLESS . Clarity After: CLEAR_

Artifacts:

Comments:

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FORM I - IN

INORGANIC ANALYSES DATA SHEET

	,	
EPA	SAMPLE	NO.

MHDD43

Lab Name: SVL_ANALYTICAL_INC._____ Contract: 68-D5-0138

Lab Code: SILVER Case No.: 24569 SAS No.: ____ SDG No.: MHBG97

Matrix (soil/water): WATER

Lab Sample ID: MHDD43

Level (low/med): LOW__

Date Received: 04/12/96

% Solids:

0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

	CAS No.	Analyte	Concentration	C	Q	М] ! !
	7429-90-5	Aluminum	1810	!-		P	
	7440-36-0	Antimony -	45.5	Ū		P	į
•	7440-38-2	Arsenic	1.2	,		F	J
	7440-39-3	Barium	60.3		i	P	į
i	7440-41-7	Beryllium		ู่ ย	-	P	į .
	7440-43-9	Cadmium	4.7	U		P	
i	7440-70-2	Calcium	60500	į .		P	i
į	7440-47-3	Chromium	1.6	Ū	,	P	j
٠ (7440-48-4	Cobalt	3.9	U		P	i t
Ì	7440-50-8	Copper	18.5	₿		P	1
į	7439-89-6	Iron	2690			P	i I
	7439-92-1	Lead	24.1	_	N_	F_	ļŢ
	7439-95-4	Magnesium	8490			P	•
1	7439-96-5	Manganese	447			P_	١٠.
1	7439-97-6	Mercury	0.13	B		CV	u
1	7440-02-0	Nickel	12.4	U		P_	!
1	7440-09-7	Potassium	2440	В		P_	i ii
1	7782-49-2	Selenium_;	0.90		WN	F_	J
1	7440-22-4	Silver	4.3	U		P_	
1	7440-23-5	Sodium	10600	_ ;		P_	
1	7440-28-0	Thallium_	0.90			F_	J
į	7440-62-2	Vanadium_	2.0	U		P_	02
į	7440-66-6	Zinc	242	_ !		P_	
į		Cyanide		_		NR	
i		!		_;			

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COLORLESS

Clarity Before: CLEAR_

Texture:

Color After: COLORLESS

Clarity After: CLEAR

Artifacts:

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FORM I - IN

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INORGANIC	ANALYSES	DATA	SHEET

EPA	SAMPLE	NO
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					•		.1 .	MHDD44	i
			1	•		*	Į	nubbaa,	1
Lah	Name:	SVI.	ANALYTICAL	TNC:	Contract:	68-D5-0138	!		. !
	ه میزادشان ا د	0 1 2	وسليط مدمها بمداعله عدانيتين بواطوان		 ~~		·		1

Lab Code: SILVER Case No.: 24569 SAS No.: ____ SDG No.: MHBG97

Matrix (soil/water): WATER

Lab Sample ID: MHDD44

Date Received: 04/12/96

₹ Solids:

Level (low/med):

0.0

LOW

Concentration Units (ug/L or mg/kg dry weight): UG/L_

	1	1		1	Ī		1
	CAS No.	Analyte	Concentration	C	Q	M	1
				_	<u> </u>	!	!
	7429-90-5	Aluminum	1860	-		! P_	į
	7440-36-0	Antimony_	45.5	•		P_	! _
	7440-38-2	Arsenic	0.90	U	N	F	} J
	7440-39-3	Barium		B		P_	,
	7440-41-7	Beryllium	0.20	¦υ	·	P_	j C
	7440-43-9	Cadmium	4.7	U,		P_	l'
	7440-70-2	Calcium	61600	_		P	1
	7440-47-3	Chromium	1.6	Ū		P	uJ
	7440-48-4	Cobalt	3.9	U		P	1
.	7440-50-8	Copper	20.0	В		P	ì
i	7439-89-6	Iron	2780			P	į
į	7439-92-1	Lead	53.8		SN	F	J
	7439-95-4	Magnesium	8670		:	P	i i
1	7439-96-5	Manganese	450	- !		P	٠.
•	7439-97-6	Mercury	0.15	B		CV	lu
i	7440-02-0	Nickel	12.4	U,		P	UJ
į	7440-09-7	Potassium	2700	В		p ⁻	i '
į	7782-49-2	Selenium	0.90	U	MIN	F	J
i	7440-22-4	Silver	4.3	U		P	
İ	7440-23-5	Sodium	11000	1		P	,
i	7440-28-0	Thallium	0.90	Ū;		F	5
į	7440-62-2	Vanadium !	2.5	В		P	J
į	7440-66-6	Zinc	331	į		P_	
i		Cyanide	()	-;		NR	
į				-:			
*	'	'		'	······································		1

							LR4/2/91
olor	Before:	COLORLESS	Clarity	Before:	CLEAR_	Texture:	
olor	After:	COLORLESS	Clarity	After:	CLEAR_	Artifacts:	

Comments:

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FORM I - IN

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INORGANIC	ANALYSES	DATA	SHEET

EPA	SA	MPLE	NO
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Lab Name: SVL ANALYTICAL INC. ____ Contract: 68-D5-0138

Lab Code: SILVER

Case No.: 24569_ SAS No.: _____ SDG No.: MHBG97

Matrix (soil/water): WATER

Lab Sample ID: MHDD45

Level (low/med): LOW

Date Received: 04/12/96

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L_

,		1	1	.]	1	1	1
CAS	No.	Analyte	Concentration	rĈ	Q	М	!
742	9-90-5	Aluminum	37.4	B		P	} { }
744	0-36-0	Antimony_	45.5	Ü		P P	i !
744	0-38-2	Arsenic	0.90	Ü	N	F	J
744	0-39-3	Barium	0.57			P	u
744	0-41-7	Beryllium	0.20	្រប	1	P	1
744	0-43-9	Cadmium	4.7	U	1	P	
744	0-70-2	Calcium	40.3	B	1	P	u
744	0-47-3	Chromium	1.6	U	i	P	
744	0-48-4	Cobalt	3.9	U	j	P	
744	0-50-8	Copper	2.9	¦ U	1 I	P	
743	9-89-6	Iron	8.7	¦ U	!	P_	u T
743	9-92-1	Lead	1.2	B	N	F_	$[u, \mathcal{J}]$
1743	9-95-4	Magnesium	38.1	B		P_	u
1743	9-96-5	Manganese:	2.0	¦ U	·	P_	٠.
1743	9-97-6	Mercury	0.15	¦ B .	!	CV	u
1744	0-02-0	Nickel	12.4			P_	
1744	0-09-7	Potassium;	262			P_	
1778		Selenium_	0.90		W1	F_	J
,		Silver	4.7	B	<u> </u>	P_	
•		Sodium	111	,	·	P_	u
		Thallium_	0.90		W	F_	J
	,	Vanadium_	2.0			P_	
744	0-66-6	Zinc	3.6	[U		P_	
·	·	Cyanide		!-!		NR	
i	!			i_		ا ا	

		-										
3	O	1	0	r	В	e	£	O	r	e	:	

COLORLESS

Clarity Before: CLEAR_

Texture:

Color After: COLORLESS

Clarity After: CLEAR_

Artifacts:

Comments:

FORM I - IN

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TNORGANIC	ANALYSES	DATA SHEET	r

	EPA	SAMPLE	NO
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MHDD46

Lab Name: SVL_ANALYTICAL_INC.____ Contract: 68-D5-0138

Lab Code: SILVER Case No.: 24569 SAS No.: ____ SDG No.: MHBG97

Matrix (soil/water): WATER

Lab Sample ID: MHDD46

Level (low/med):

LOW

Date Received: 04/12/96

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L_

1	T	1	1	T		1
CAS No.	Analyte	Concentration	С	Q.	М	1
7429-90-5	Aluminum	4060	-		P	!
7440-36-0	Antimony	45.5	Ū	!	P	
7440-38-2	Arsenic	0.90	•	•	F	J
7440-39-3	Barium		В		P	, -
7440-41-7	Beryllium	0.24	,		P	
7440-43-9	Cadmium	4.7	,		P	į
7440-70-2	Calcium	73800			P	į
7440-47-3	Chromium	1.6	Ū		P	עד
7440-48-4	Cobalt	3.9	υ		P	!
7440-50-8	Copper	4.1	•	1	P	i '
7439-89-6	Iron	5210			P	1
7439-92-1	Lead	4.5	-	N	F	lu J
7439-95-4	Magnesium	17900	_		P	i , , .
7439-96-5	Manganese	94.1	_		P)*
7439-97-6	Mercury	0.15	B		CV	u
7440-02-0	Nickel	12.4	U		p	uJ
7440-09-7	Potassium	2730	В		p.	l I
7782-49-2	Selenium_	0.90		WN	F_	J
	Silver	4.3			P_	
7440-23-5	Sodium	8400			P_	_
,	Thallium_	0.90			F_	j
7440-62-2	Vanadium_	9.7	В		P	J
7440-66-6	Zinc	27.9	_ !		P	
	Cyanide		_!		NR	•
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BROWN .

Clarity Before: CLOUDY

Texture:

Color After:

BROWN

Clarity After: CLOUDY

Artifacts:

Comments:

FORM I - IN

EPA SAMPLE NO.

MEDD47

Lab Name: SVL ANALYTICAL INC. Contract: 68-D5-0138

Lab Code: SILVER Case No.: 24569 SAS No.: SDG No.: MHBG97

Matrix (soil/water): SOIL_

Lab Sample ID: MHDD47

Level (low/med):

LOW .

Date Received: 04/12/96

% Solids:

70.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

						
CAS No.	Analyte	Concentration	C	Q	M	! 1 ! !
7429-90-5	Aluminum	8210	-		P	[
7440-36-0	Antimony	12.9	•		p-	į
7440-38-2	Arsenic	11.2	•	SN	F	J
7440-39-3	Barium	155	-		P	
7440-41-7	Beryllium	0.53	Ē		P	
7440-43-9	Cadmium	4.9	~	*	- p	
7440-70-2	Calcium	4070	_		P-	
	Chromium	6.5	-		P-	
7440-48-4	Cobalt	11.7	B		P	
7440-50-8	Copper	130	_		P-	
7439-89-6	Iron	20000	-		P-	
7439-92-1	Lead	334	}	S	F	
7439-95-4	Magnesium	4160	-		P-	r
7439-96-5	Manganese	2470	-		P-	٠.
7439-97-6	Mercury	0.07	$\overline{\mathbf{u}}$		c⊽	
7440-02-0	Nickel	6.6	- 1		P	J
7440-09-7.	Potassium	1460	- !		P-	•
7782-49-2		0.25	\overline{u}	WN	F	
7440-22-4	Silver	3.0	- !		P-	9
	Sodium		B	pagetin	P-	
,	Thallium	0.25	- 1		-	٦
7440-62-2	Vanadium	21.8	- 1		p-	-
7440-66-6	Zinc	1000	- !		p-	
	Cyanide		-		NR	
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LR4/2/96.

Color Before	:	
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BROWN

Clarity Before:

Texture: MEDIUM

Color After:

YELLOW

Clarity After:

Artifacts:

.Comments:

FORM I - IN

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EPA SAMPLE NO.

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Lab Name: SVL_ANALYTICAL_INC.____ Contract: 68-D5-0138

Lab Code: SILVER Case No.: 24569 SAS No.: SDG No.: MHBG97

Matrix (soil/water): SOIL_

Lab Sample ID: MHDD48

Level (low/med):

Date Received: 04/12/96

% Solids:

81.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS	No.	Analyte	Concentration	c	Q	М	
7429	-90-5	Aluminum	7070	-		P	!
• •	-36-0	Antimony	11.2	Ū	<u> </u>	P	į
	-38-2	Arsenic	10.7	,	SN.	F	1
	-39-3	Barium	281	<u> </u>		P-	
• .	-41-7	Beryllium	0.33	B		P-	!!!
	-43-9	Cadmium	498		*	p-	
•	-70-2	Calcium	11600	_		P-	
•	-47-3	Chromium	6.0	-	-	P	J
•	-48-4	Cobalt	13.3	-		P	!
,	-50-8	Copper	284			P-	•
	-89-6	Iron	. 24300	-		P	
•	-92-1	Lead	311	-	S	F	
	-95-4	Magnesium	4250			P_	
	-96-5	Manganese	3060			P-	٠.
7439	-97-6	Mercury	0.07	$\overline{\mathtt{B}}$		c⊽,	
	-02-0	Nickel	9.3			P	J
	-09-7	Potassium	1500	_		P -	_
7782	-49-2	Selenium	0.22	Ū	N	F	· J
7440	-22-4	Silver -	8.7	i		P -	
7440	-23-5	Sodium	95.7	B		P	
7440	-28-0	Thallium	0.22	U		F	J
7440	-62-2	Vanadium	357	i		P	
•	-66-6	Zinc	28500	- i		₽_	
i 	i	Cyanide		_ ;		NR	
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LR 4/2/96

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BROWN

Clarity Before:

Texture: MEDIUM

Color After: YELLOW___

Clarity After:

Artifacts:

Comments:

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FORM I - IN

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			<u> </u>			•	MHDD49	1
Lab	Name:	SVL	ANALYTICAL INC	•	Contract:	68-D5-0138		1

Lab Code: SILVER Case No.: 24569 SAS No.: ____ SDG No.: MHBG97

Matrix (soil/water): SOIL__________Lab Sample ID: MHDD49

Level (low/med): LOW___ Date Received: 04/12/96

% Solids: __70,7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

	· · · · · · · · · · · · · · · · · · ·					
CAS No.	Analyte	Concentration	С	Q.	М	
7429-90-5	Aluminum	6030	-		P	
7440-36-0	Antimony	12.9	ίŪ	1	P	1
7440-38-2	Arsenic	8.5	į	SN	F	J
7440-39-3	Barium	112	<u> </u>	i —	P	i
7440-41-7	Beryllium	0:37	B	j	P	W.
7440-43-9	Cadmium	3.6	İ	*	P	i
7440-70-2	Calcium	6520	i —		P	1
7440-47-3	Chromium	4.2	_		P	J
7440-48-4	Cobalt	7.8	B		P	•
7440-50-8	Copper	125			P	
7439-89-6	Iron	15900	_		P	ĺ
7439-92-1	Lead	226	_		F	į
7439-95-4	Magnesium	3440	_		p_	į
7439-96-5	Manganese	1570	_		P -	
7439-97-6	Mercury	0.07	Ū,		CV	
7440-02-0	Nickel	4.2	В		Р	J
7440-09-7	Potassium	1020	В		P	-
7782-49-2	Selenium	0.25	υ	N	F	J
7440-22-4	Silver		В		P	_
7440-23-5	Sodium	111	В		P	
7440-28-0	Thallium	0.25	ប		F	J
7440-62-2	Vanadium	16.2	i		P _	
7440-66-6	Zinc	813	-;		P -	i
*	Cyanide	, ,	-		NR	
	-		_ ;			
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LR 4/2/96

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Colo	Before:	BROWN	Clarity Before: Texture	e: MEDIUM
Colo	After:	COLORLESS	Clarity After: Artifac	cts:
Commo	ents:			
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FORM I - IN

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	SAMPLE	NO

MHDD50	

Lab Name: SVL ANALYTICAL INC. Contract: 68-D5-0138

Lab Code: SILVER Case No.: 24569 SAS No.: _____ SDG No.: MHBG97

Matrix (soil/water): SOIL_

Lab Sample ID: MHDD50 .

Level (low/med):

Date Received: 04/12/96

% Solids:

73.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

							_
	CAS No.	Analyte	Concentration	c	Q	М	! ! !
	7429-90-5	Aluminum	6300	-		P]
	7440-36-0	Antimony	12.4	Ū		P	İ
	7440-38-2	Arsenic	9.2	į	SN	F	15
	7440-39-3	Barium	134	-	i	P	į
	7440-41-7	Beryllium	0.42	B	-	P	į
	7440-43-9	Cadmium	4.0		*	p ⁻	į
i	7440-70-2	Calcium	9610	_		P	į
i	7440-47-3	Chromium	5.0	_		P-	J
į	7440-48-4	Cobalt -	9.7	B		P	į
j	7440-50-8	Copper	142			P_	į
i	7439-89-6	Iron	17200	_	,	P	į
į	7439-92-1	Lead	260	-		F	1
į	7439-95-4	Magnesium	3830	-		P	
i	7439-96-5	Manganese	1800	- 1		P	١٠,
į	7439-97-6	Mercury	0.07	B	700700	cv	į
į	7440-02-0	Nickel	6.9	В		P	J
i	7440-09-7	Potassium	1080			P	i .
į	7782-49-2	Selenium	0.25	U	N	F	J
į	7440-22-4	Silver	3.1	.		P	i I
1	7440-23-5	Sodium	84.5	B		P	
į	7440-28-0	Thallium	0.25			F	J
i	7440-62-2	Vanadium	18.3	1		P	l I
į	7440-66-6	Zinc	972	- į		Ď_	ł
i		Cyanide		_ i		NR	t t
1				_		l I	! !

LR 4/2/96

Color	Before:	BROWN	Clarity	Before:	· 	Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:		Artifacts:	
Commer	nts:				•		
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INORGANIC	ANALYSES	DATA	SHEET

EPA	SAMPLE	NO.
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ďs.	:smsK	SVL_ANALYTICAL_INC	Contract: 68-D5-0138	1	

Lab Code: SILVER Case No.: 24569 SAS No.: ____ SDG No.: MHBG97

Matrix (soil/water): SOIL_ Lab Sample ID: MHDD51

Level (low/med): LOW___ Date Received: 04/12/96

% Solids: __66.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

•	·		·				
	CAS No.	Analyte	Concentration	С	Q	M	
17	429-90-5	Aluminum	6350	-		P	
17	440-36-0	Antimony	13.7	Ū		P	1
7	440-38-2	Arsenic	6.6	1	+N	F	J
17	440-39-3	Barium	226	-		P	1
7	440-41-7	Beryllium	0.55	B		P	Ì
17	440-43-9	Cadmium	. 1.6	i	*	P	1
7	440-70-2	Calcium	75000	į –	i — —	P	1
7	440-47-3	Chromium	6.2	i —		P	J
17	440-48-4	Cobalt	7.1	B	1	₽.	Ì
17	440-50-8	Copper	22.4			P	1
7	439-89-6	Iron	19400	_		P	í I
17	439-92-1	Lead .	21.1	_	S	F	İ
17	439-95-4	Magnesium	9580	_		P -	i
7	439-96-5	Manganese	197	_	•	Þ_	٠.
17	439-97-6	Mercury	0.08	\overline{B}		CV	
7	440-02-0	Nickel -	16.7			P	J
17	440-09-7	Potassium	2080	-	-	₽_	
7	782-49-2	Selenium	0.92	B	MM	F	J
7	440-22-4	Silver	1.3	U		P	
7	440-23-5	Sodium	126	В		P	
7	440-28-0	Thallium	0.27	U		F_	J
17	440-62-2	Vanadium	24.7			P	
7	440-66-6	Zinc	76.6	_	-	ρŢ	
1		Cyanide				NR	
-		-		_		ii	
_		*		_			

LR 4/2/96

Color Before:	BROWN	Clarity Befo	re:	Texture:	MEDIUM
Color After:	YELLOW	Clarity Afte	r:	Artifacts:	
Comments:	•				
4					
	· · · · · · · · · · · · · · · · · · ·				

FORM I - IN .

EPA	SAMPLE	٠	NO	,
	•			

* .	-								!
				*		•		MHDD52	. !
Lab	Name:	SVL	_ANALYTICAL_	INC	٠,	 Contract:	68-D5-0138	,	i

Lab Code: SILVER

Case No.: 24569 SAS No.: _____ SDG No.: MHBG97

Matrix (soil/water): SOIL_

Lab Sample ID: MHDD52

Level (low/med):

LOW___

Date Received: 04/12/96

% Solids:

78.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

						
CAS No.	Analyte	Concentration	c	Q	М	! !
7429-90-5	Aluminum	8210	1-		P	!
7440-36-0	Antimony_	11.6	Ū		P	į
7440-38-2	Arsenic	8.2	į	SN	F	ijŢ
7440-39-3	Barium	180	i –	i	P	i
7440-41-7	Beryllium	0.54	B		P -	į
7440-43-9	Cadmium	. 1.5	į	*	P	i -
7440-70-2	Calcium	21700	i —		P	1
7440-47-3	Chromium	8.7	-		P	J
7440-48-4	Cobalt	6.0	B	-	P	İ
7440-50-8	Copper	26.9			P P	-
7439-89-6	Iron	16600	_		P	
7439-92-1	Lead	52.8			F	l I
7439-95-4	Magnesium	5680			P	l I
7439-96-5	Manganese	268			P_	٠.
17439-97-6	Mercury	0.34	_ :		CV:	
7440-02-0	Nickel	14.4	_		P	J
7440-09-7	Potassium	2480	_		P_	
7782-49-2	Selenium_	0.40	B	N	F_	J
7440-22-4	Silver	1.1	U¦		P_;	
7440-23-5	Sodium	118	₿;		P_	
7440-28-0	Thallium_	0.23	U;		F_	J
7440-62-2	Vanadium_	24.4	_		P_	
7440-66-6	Zinc	143			P_ :	
!	Cyanide		_!		NR	
i			_ ¦			

LR 4,2/9%

Color	Before:	BROWN	Clarity	Before:	-	Texture:	MEDIUM
Color	After:	YELLOW	Clarity	After:		Artifacts:	*
Comme	nts:			,		•	
						, .	
**********		<u>'</u>					

FORM I - IN

REGION VIII SUMMARY OF CLP DATA QUALITY ASSURANCE REVIEW ORGANICS - VOA, BNA, PEST/AROCLOR

Case/SAS No.	Site Name		Operable Unit
24569	. Durango Lea		
RPM Name		د دده	
Pat Smith			
Contractor Laboratory	Contract No.	SDG No.	Laboratory TPO/Region
Industrial Environmental Analysts (IEA)	68-D5-0011	HG931	

Data Reviewer <u>Bill Fear/Thad Corrigan</u> Review Completion Date <u>June 5, 1996</u>

Sample ID	Sample Location	Matrix	Analysis
HQ931	DL-SW-1	Water	CLP/RAS Volatile, Semivolatile and Pesticide/PCB
HQ932	DL-SE-I	Soil	
HQ933	DL-SW-2	Water	
HQ934	DL-SE-2	Soil .	
HQ935	DL-SW-6	Water	
HQ936	LL-SW-1	Water	
. HQ937	DL-SW-7	Water	CLP RAS Volatile
HQ938	LL-SE-I	Soil	CLP/RAS Volatile, Semivolatile and Pesticide/PCB

DATA QUALITY STATEMENT*

	Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewerData are UNACCEPTABLE according to EPA Functional Guidelines.
·X	_Data are acceptable with QUALIFICATIONS noted in review.*
Telep	hone/Communication Logs Enclosed? Yes NoX
TPO attenti	Attention Required? Yes X No If yes, list the items that require ion:
	The volatile analyses for samples HQ933, HQ935, and HQ937 were analyzed beyond the seven-day technical holding time for unpreserved water samples (see Section II).
•	The semivolatile analyses for samples HQ932 and HQ934 contained unreported TICs (see Section IX).
	The pesticide/PCB samples HQ933 and HQ935 were extracted beyond the seven-day technical holding times for water samples.

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hg931/urs1

^{*} Please see Data Qualifier Definitions attached to the end of this report.

ORĞANIC RAS DATA QUALITY ASSURANCE REVIEW REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," February, 1994.

Case 24569, SDG HQ931 consisted of eight (8) samples for CLP RAS volatile analyses and seven (7) samples for CLP RAS semivolatile and pesticide/PCB organic analyses.

The laboratory did not perform the required library search on all non-target sample components (see Semivolatile Section IX). All tentatively identified compounds (TICs) were qualified "NJ" - tentatively identified at an estimated concentration. TICs detected in the samples and associated blanks were qualified "R" rejected.

The following tables list all data qualifiers added to the data.

Sample Number	'Volatile Compound	Qualifier	Reason for Qualification	Review- Section
HQ933, HQ935, 1 HQ937	Benzene, Toluene, Chlorobenzene, Ethylbenzene, Styrene, Total Xylenes	UJ	7-day technical holding time exceeded	
All	Acetone	UJ	Initial calibration RSDs > 30%	tV.
HQ932, HQ934, HQ938	Chloroethane	ເນ	Initial calibration RSD > 30%	ĮΫ
HQ932, HQ934. HQ938	Bromoform, Tetrachioroethene	ເນ	Continuing calibration %Ds > 25%	[V

Sample Number	Semivolatile Compound	Qualifier	Reason for Qualification	. Review Section
HQ931, HQ933,	Phenot.	UJ	Continuing calibration %Ds >	(V
HQ935, HQ936	Hexachlorocyclo-		25%	
	pentadiene, 2,4-			
•	Dinitrophenol,	•	j	
	Pentachtorophenol -]	
HQ932. HQ934,	Phenol. 2.4-	ŨJ	Continuing calibration %Ds >	ĮV į
HQ938	Dinitrophenol		25%	

Sample Number	Pesticide Compound	Qualifier	Reason for Qualification	Review Section
HQ933, HQ935	All	ບເ	7-day technical holding times - exceeded	11
All 1	beta-BHC	l u	Initial calibration %RSDs > 20%	V
All	4.4°-DDT	UJ		

hg931 ursi

ORGANIC RAS VOLATILE DATA QUALITY ASSURANCE REVIEW

SOW Number O Revision NA		RAS Organic Data Completeness Checklist
<u>P</u> MS/ P Met	mmary Package ogate Recovery Summary MSD Summary (Form III) hod Blank Summary (For MS Tuning and Mass Cal	I) m IV)
P Organization P Record P Quantition P Mass	ge ling Times (SMO Sample anic Analysis Data Sheets onstructed Ion Chromatog ntitation Reports s Spectral Data NIH Mass Spectral Libra	(Form I) gram(s) (RIC)
P Initia P Cont P Inter P VO-2	ent List of Laboratory/Ins Il Calibration Data (Form	Form VII) for each instrument ary (Form VIII)
Raw QC Package PBFB	mass spectra and mass lis	tings
P RIČ P Quar P Mass	nic Analysis Data Sheets or Total Ion Chromatogra nitation Reports Spectral Data NIH Library Search for T	im
P Orga P RIC P Quan NR Mass	Spike Duplicate Data nic Analysis Data Sheets titation Reports Spectral Data NIH Library Search for T	TICs
KEY:		•
R = Pro NP = No NR = No	vided as Resubmission	

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ORGANIC RAS VOLATILE DATA QUALITY ASSURANCE REVIEW

I.	DELIVE	RABLES					•		
All del	iverables w	ere present a	as specified	l in the	statement o	f work.			
VOA:	Yes X		No		گنده سو س	,			
Comm	ents:								٠.
		!		•	ì			•	•
п.	HOLDING	TIMES		-	•				
All CL	P-SOW hole	ding times w	vere met.						
VOA:	Yes X		No		-				
Comme	ents:					•			•
	None.	4			•	• •			
All 40 (CFR Part 13	6 technical	holding tin	nes, wer	e met.	-			
VOA:	Yes	· · · · · · · · · · · · · · · · · · ·	No X	-	•			•	
Comme	ents:	,		•					
	It was not o	: lear as to w	hether the	water s	amples wer	e acid p	reserved	l. The cas	se narrative

It was not clear as to whether the water samples were acid preserved. The case narrative indicated a pH less than 2, however, the volatile pH log indicated a pH of 6. It is assumed that the water samples were not acid preserved and the aromatic compounds in samples HQ933, HQ935, and HQ937 were qualified accordingly.

The following table lists samples that were analyzed outside technical holding times:

Sample Number	Days Outside Limits	Compound	Qualifier
HQ933, HQ935,	1	Benzene, Toluene, Total Xylenes,	. Ci
HQ937		Ethylbenzene, Chlorobenzene, Styrene	

	•			
ш.	BFB PERFORMA	NCE RESULTS		
	BFB performance resul s were included.	ts were within the sp	pecified control limits. All appropri	ete BFB
VOA	Yes X	No	-	
Comn	nents:		×*	
	None.			
		•		,
IV.	INSTRUMENT CA	LIBRATIONS: I	NITIAL AND CONTINUING ST	ANDARDS
	instrument calibration ed control limits listed		cording to SOW requirements and a	met the
VOA:	Yes	No X	• ,	
Comm	nents:			
•		tional guideline crite	a However, the %RSDs for two ceria. The following table lists the %	
	Compound	%RSD	Associated Sample	Qualifier
	Acetone	39.5	HQ931, HQ933, HQ935, HQ936, HQ937	U
	Chloroethane	33.8	HQ932, HQ934, HQ938	ÜJ
L	Acetone -	33.0		
	uing instrument calibra ed control limits listed		according to SOW requirements ar delines.	nd met
VOA:	Yes	No X		
Comm	ents:			

The continuing calibrations met all SOW criteria. However, the %Ds for two compounds were outside the functional guideline criteria. The following table lists the %Ds for compounds which exceeded criteria (25%):

Compound	%Difference	Associated Sample	1	Qualifier
Bromoform -	30.7	HQ932, HQ934, HQ938		UJ
Tetrachloroethene	25.1		į	

	Yes X	<u>.</u>	No	· · · · ·		•	
Comm	ients:	•	•	المعاشر	*		
	None.						
VI.	MATRIX :	SPIKE/N	IATRIX SP	IKE DUPLIC	CATE		
Matrix require	Spike/Matri ments and re	x Spike Desults met	Ouplicate (M	S/MSD) analy led recovery as	sis was performed ad precision limits	d according to SOW	.'
VOA:	Yes X	· .	. No			•	
Comme	ents:		•			,	
	None.			-	• .	•	
•		-		· ·			
VΠ.	INTERNA	L STANI	DARD ARE	A			
	l standard ar ed control lin		s was perfor	med according	to SOW require	ments and results met	
VOA:	Yes X		No			•	
Comme	ents:				•		
	None.		•			•	•
	None.		·				•
				LVC/G DDC/V	. 70		•
VIII.	LABORAT			LYSIS RESU			•
VIII.	LABORAT	k analysis				nents and results met	•
VIII. The laborate specified	LABORAT oratory blant	k analysis iits.		ned according		nents and results met	•
VIII. The laborate specified	LABORAT oratory blant d control lim Yes X	k analysis iits.	was perform	ned according		nents and results met	
VIII. The laborate specified VOA: Comme	LABORAT oratory bland d control lim Yes X	k analysis nits.	was perform	ned according			•
VIII. The labe specified VOA:	LABORAT oratory bland d control lim Yes X ents: No contamin	k analysis nits.	was perform No e found in th	ned according e volatile meth	to SOW requiren	age blank	
VIII. The labe specified VOA:	LABORAT oratory bland d control lim Yes X ents: No contamin	k analysis nits.	was perform No e found in th	ned according e volatile meth	to SOW requiren		es.

SURROGATE COMPOUND RECOVERY

IX. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met contract requirements.

VOA: Yes <u>X</u> No ____

Comments:

None.

X. ADDITIONAL COMMENTS OR PROBLEMS/RESOLUTIONS (not addressed above)

VOA:

None.

ORGANIC RAS SEMIVOLATILE DATA QUALITY ASSURANCE REVIEW

SOW Number <u>OLMO3.0</u> Revision <u>NA</u>	RAS Organic Data Completeness Checklist
Quality Control Summary Package P Surrogate Recovery Summary P MS/MSD Summary (Form P Method Blank Summary (Form P GC/MS Tuning and Mass Control	III) orm IV)
Sample Data Package P Holding Times (SMO Samp P Organic Analysis Data Shee P Reconstructed Ion Chromat P Quantitation Reports P Mass Spectral Data P EPA/NIH Mass Spectral Like	ts (Form I) ogram(s) (RIC)
Standards Data Package NR Current List of Laboratory/I P Initial Calibration Data (For	nstrument Detection Limits m VI) for each instrument (Form VII) for each instrument mary (Form VIII)
Raw QC Package P DFTPP mass spectra and ma Reagent Blank Data P Organic Analysis Data Sheet P RIC or Total Ion Chromatog P Quantitation Reports P Mass Spectral Data P EPA/NIH Library Search for	s (Form I) gram
P EPA/NIH Library Search for Matrix Spike/Matrix Spike Duplicate Data P Organic Analysis Data Sheet P RIC P Quantitation Reports NA Mass Spectral Data NA EPA/NIH Library Search for KEY:	S
P = Provided in original data p R = Provided as Resubmission	

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ORGANIC RAS SEMIVOLATILE DATA QUALITY ASSURANCE REVIEW

ſ.	DELIVERA	BLES				•	•
All de	liverables were	 present a	as specifi	ed in the s	statement of wo	rk.	· •
BNA	Yes X		-No	·		•	
Comm	nents:		-				•
*	None.	•	•	•		•	· .
п.	HOLDING	TIMES		* .*			
All CL	P-SOW holdin	ig times v	vere met				
	Yes X	<u> </u>	No				
Comm	ents: None.	1				• •	
						•	
All 40	CFR Part 136	technical	holding	times were	e met.		
BNA:	Yes X	\$ 1 m	No				
Comm	ents:		*	•			
٠	None.		.				
III.	DFTPP PER	FORMA	NCE RE	SULTS -	and the second of the second o		
The DF results	TPP performa	ince result	is were v	vithin the :	specified contro	l limits. All app	propriate DFTPP
BNA:	Yes X	- .	No				
Comme	ents:						
	None.				·		•
					•		**

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INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS Initial instrument calibrations were performed according to SOW requirements and met the specified control limits listed in the functional guidelines. BNA: Yes X Comments: None. Continuing instrument calibration was performed according to SOW requirements and met specified control limits listed in the functional guidelines. No X BNA: Yes _____ Comments: 100 The continuing calibrations met all SOW criteria. However, the %Ds for several compounds were outside the functional guideline criteria. The following table lists the %Ds for compounds which exceeded criteria (25%): % Difference Compound Associated Sample Qualifier Phenoi 25.4 HQ931, HQ933, HQ935, HQ936 UJ Hexachlorocyclopentadiene 25.2 - 2.4-Dinitrophenol 39.4 Pentachlorophenol 25.3 Phenol. 26.2 HQ932, HQ934, HQ938 UJ 2.4-Dinitrophenol 55.7 V. SURROGATE COMPOUND RECOVERY

Surrogate	compound	recovery	analysis y	vas	nerformed	according	to SO	W requi	rements	and
Surrogare	compound	recovery	anary 313	., 43	periormed	according	0000	, it i cqui	Concinca	una
results me	t specified (control lin	nits.							

BNA: Yes X

Comments:

VL		11777771 A	TIME CHIZE	TATE TO A STEE
3. I		/IK # / LI3	INIX VEINE	111: 12 11 3 1 1
V 1.	-31-31-13-13-21			DUPLICATE

Matrix Spike/Matrix 3	Spike Duplicate (MS/MSD) analysis was p	erformed accor	rding to SOW
requirements and resu	ilts met recommended reco	very and precis	ion limits.	, –,

D:1.1. 10.

No X

Comments:

Samples HQ931 and HQ932 were spiked with matrix spiking compounds. All recoveries and RPDs were within QC limits in the MS/MSD analyses performed on sample HQ932 (soil matrix). The following table lists the MS/MSD results that were outside criteria in the MS/MSD analyses performed on sample HQ931:

1.5	, 0	%R	1 7 5	Control Limits
Compound	MS	MSD	RPD	%R
4-Nitrophenol	81	97		10-80
Pentachlorophenol		120		9-103

No qualifiers were added to the data as organic sample results are not qualified based solely on MS/MSD results.

These compounds were not found in the associated sample:

VII. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to SOW requirements and results met specified control limits.

BNA Yes X

No .

Comments:

The incorrect area count was reported for the internal standard phenanthrene-d10 on Form S for the 4/22/96 12-hour standard. All samples are within QC limits when compared to the correct area count.

Additionally, the method blanks were not reported on the Form 8 for the 4/19/96 analyses. The raw data were used to evaluate and verify that the areas and retention times were within control limits.

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VIII. LABORATORY BLANK ANALYSIS RESULTS

The Laboratory blank an	alysis was	performed	according to	SOW	requirements	and r	results	met
specified control limits.		•	-		•			

BNA: Yes X No ____

Comments:

The blank was not contaminated with target analytes. However, the water matrix blank (SBLKH1) was contaminated with two TICs and the soil matrix blank (SBLKH2) was contaminated with 3 TICs.

All TICs in the associated samples were previously qualified "NJ" - estimated tentatively identified compounds in the Review Summary. The following table lists blank results, associated samples and qualifiers added to the data.

	Blank ID	Extraction Date	TIC Retention Time	Associated Sample	Qualifier
	SBLKHI	4-16-96	4.13	Waters	Noner
	SBLKHI	4-16-96	4.38	HQ931	R
Γ	SBLKH2	4-17-96	4.24	HQ932, HQ934, HQ938	R
Γ	SBLKH2	4-17-96	3,82		
Ŀ	SBLKH2	4-17-96	5.07		

^{*} The TIC at 4.13 minutes in SBLKH1 was not found in the associated samples

The laboratory did not flag the TIC at retention time 5.07 minutes in the associated samples with the "B" qualifier.

The TIC at retention time 4.38 in sample HQ931 was not reported on the Form 1F but was reported as a cyclic alkane in the narrative. However, mass spectra verify that this is the same TIC found in the blank.

IN. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met SOW requirements.

BNA: Yes _____ No X

Comments:

A potential TIC peak at retention time 14.3 minutes in sample HQ932 and several late eluting peaks in sample HQ934 were not searched for, identified, or reported.

The TIC at retention time 4.23-4.27 minutes in the soil analyses was identified as an aldol condensation product. This TIC was also identified as a blank contaminant and was, therefore, rejected. No further action is taken.

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N. ADDITIONAL COMMENTS OR PROBLEMS/RESOLUTIONS (not addressed above)

BNA

None

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ORGANIC RAS PESTICIDE/AROCLOR DATA QUALITY ASSURANCE REVIEW

	~ 1	
SOW Number Revision N	er <u>OLMO3 0</u> NA	RAS Organic Data Completeness Checklist
P P P	trol Summary Package Surrogate Recovery Summa: MS/MSD Summary (Form I. Method Blank Summary (Fo GC/MS Tuning and Mass Ca	ÍÍ) (m. IV)
P P P	 Holding Times (SMO Sample Organic Analysis Data Sheet GC/EC Chromatogram(s) Pesticide Identification Summositive results only 	
P P P P P	Current List of Laboratory/Ir Pesticide Initial Calibration o Pesticide Initial Calibration o Pesticide Analyte Resolution Pesticide Calibration Verifica Pesticide Analytical Sequence Pesticide Florisil Cartridge Cl Pesticide GPC Calibration (Fe	f Single Component Analytes (Form VI-1 2) f Multicomponent Analytes (Form VI-3) Summary (Form VI-4) stion Summary (Form VII-1,2) e (Form VIII) heck (Form IX-1)
Reagent Blank	k Data [‡] _Organic Analysis Data Sheets _GC/EC Chromatograms and I	
<u>P</u>	Matrix Spike Duplicate Data _Organic Analysis Data Sheets _GC/EC Chromatograms and I	
KEY		
P R NP NR NA	 Provided in original data pa Provided as Resubmission Not provided in original dat Not required under the SOV Not applicable to this data p 	λ'
		,

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ORGANIC RAS PESTICIDE/AROCLOR DATA QUALITY ASSURANCE REVIEW

I. DELIVER	ABLES		
All deliverables we	rë present as specified ir	the statement of work	
PEST/AROCLOR	Yes X	No	•
Comments		:	
None '	•		
	•	•	
II. HOLDING	TIMES	•	
All CLP-SOW hold	ក្មេំg times were met		••
PEST/AROCLOR	Yes X	No	
Comments		•	
None	-	•	
	•	•	
All 40 CFR Part 130	: 5 technical holding times	s were met	
PEST/AROCLOR	Yesi	No _X	• .
Comments			
	ry receival temperature t'no problems were enc	was not reported. However, the case ountered	narrative
The extraction	on for two water sample	s was completed I day outside the tecl	hnical holding
The following	g table lists samples that	t were extracted outside technical hold	ing times
Samula Yambar	Days Outside Limits/	Composind	Ountering
Sample Number HQ933 HQ935	Extraction or Analysis 1/Extraction	Compound All	Qualifier UJ

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The breakdown of eless than 30%	4,4'-DD'	Γ and of End	rın was less than	20% and the com	ibined breakdown was
PEST/AROCLOR	Yes	<u> </u>	No ,	_	-
Comments	i i				•
None	1		e *		•
The decachlorobiph the specified contro		B) and tetrac	chloro-m-xylene	(TCX) retention t	time shifts were within
PEST/AROCLOR	Yes		No	-	•
Comments	ţ				
None	1 -				
Initial instrument cal specified control lim				SOW requireme	nts and met the
PEST/AROCLOR	Yes		No X.		
Comments					
compounds v	vere out:	side the funct	requirements I ional guideline c eeded criteria (20		SDs for two ving table lists the
Compound	;	%RSD	Asso	eiated Sample	Qualifier
beta-BHC		21 2		All	UJ
↓↓-DDT	1	22 9			
	-				
Continuing instrume specified control limit	nt calibra its listed	tion was peri in the functio	formed according nal guidelines	g to SOW require	ments and met
PEST/AROCLOR	Yes <u>X</u>		No		`
Comments				•	
None					•
					•
					,
	•		•		-

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hgy31 urst

VIII. ADDITIONAL COMMENTS OR PROBLEMS/RESOLUTIONS (not addressed above)

PEST/AROCLOR

The various GRQLs for the water samples were not reported with two significant figures. In addition, various CRQLs for the soil sample HQ934 did not appear to be rounded correctly after being adjusted to account for its percent solids.

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HQ931

Lab Name: IEA-NJ	Contract: <u>63D50011</u>
Lab Code. <u>IFANJ</u> Case No <u>24559</u> S	
Matrix: (soil/water) Water	Lap Sample ID: <u>61422001</u>
Sample wt/vol: $\frac{5}{\sqrt{g/mL}} \frac{ml}{ml}$	Lab File ID: A8080
Level: (low/med) LOW	Date Received 04/12/96
% Moisture. not dec	Date Analyzed: 04/17/96
GC Column: <u>RTX-624</u> ID: <u>0.53</u> (mm)	. Dilution Factor 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)

		CONCENTRATION UNITS:
CAS NO.	СОМРОЙИД	(ug/L or ug/Kg) <u>ug/l</u> Q

74-37-3	Chloromethane	10	U	
74-83-9	Bromomethane .	10	U	
75-01-4	Vinvl ₁ Chloride	10	U	
75-00-3	Caloroethane	10	Ū	
75-09-2	Methylene Chloride	10	Ū	
67-54-1	Acecone	10	Ü	5
75-15-0	Caroon Disultide	10	U .	*
75-35-4	1,1-Dicnlorostnens	10	Ü	
75-34-3	1,1-Dichloroethane	10	U	
540-59-0	[1,2-Dichloroethene(total)	10	Ü	
67-55-3	Caloroform	10	Ü	
107-06-2	1,2-Dichloroechane	10	U	
78-93-3	2-Bucanone	10	U	
71-55-6	1,1,1-Trichloroethane	10	Ü	
55-23-5	Carpon Tetrachloride	10	Ü	
75-27-4	Bromodichloromethane	1 10 1	Ü	
73-37-5	1,2-Dichloropropane	10	U	
10051-01-5	cis-1,3-Dichloropropene	10 [Ū	
79-01-5	Prichloroethene	1 10	Ü	
124-43-1	Dipromochloromethane	10 [Ü	
79-00-5	1,1,2-Trichloroethane	10	Ü	
71-43-2	Benzene	10 (Ü	
10051-02-5	Trans-1,3-Dichloropropene	101	U	
75-25-2	Bromoform	1 101	Ū	
108-10-1	4-Mesnvl-2-Pentanone	1 101	U	
591-78-5	2-Hexanone	1 201	Ü	
127-18-4	Tetrachloroethene	1 201	Ü	
108-83-3	Toluene	1 201	U	
79-34-5	1,1,2,2-Tetrachloroethane	10	Ū	ρ
108-90-7	Chloropenzene	1 7101	U	
100-41-4	Ethylpenzene	1 201	Ü	
100-42-5	Styrene	10	Ü	
1330-20-7	Total Kvienes	100 100	-	

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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

HQ931	1
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Lab Name <u>IEA-NJ</u> Co	ontract: 63D50012
Lab Code. <u>IEANJ</u> Case No.: <u>24569</u> SAS	
Matrix (soil/water) Water	Lab Sample ID: <u>61422001</u>
Sample wt/vol 5 (g/mL) ml	Lab File ID: A8080
Level: (low/med) 'LOW	Date Received: 04/12/96
Moisture: not dec	Date Analyzed: 04/17/96
GC Column: <u>RTX-624</u> ID: <u>0 53</u> (mm)	Dilution Factor: 1 0
Soil Extract Volume:(uL)	Soil Aliquot Volume(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ua/l

Number TICs Found: 0

		(45) = 01 +3)		
CAS NUMBER	COMPOUND NAME	RT	EST. CONC	Q
01.				
02.	4	- .		
03.	,	`		-
04.		.		
05.	±	<u> </u>		
06.				
07.		 !		
08.				
09.				·
10.				
12.			1	
13.			1	
14				
14. 15.			 	
16.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			
17.			i	
13.				
13. 19.			1	i
20.				-
21. 22. 23.				
22.				- 4
23.				
24.			1	
25.				-
26)	
27.				
28 29.			<u> </u>	
30				
30	<u> </u>			
I			i	

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EPA SAMPLE NO

1A VOLATĪLE ORGANICS ANALYSIS DATA SHEET

CONCENTRATION UNITS.

CAS NO	COMPOUND	(ug/L or ug/Kg) <u>ug/kc</u>	Q	
74-37-3	Cnloromethane	13	 ប	1
74-83-9	3romomethane	. 13	Ţ	7
75-01-4	(Vinyl: Chloride	13	· Ü	7(
75-00-3	Cnloroetnane	13	Ü	72
75-09-2	Methylene Chloride	. 131	Ü	7
67-64-1	Acetone	. 13	Ū	7105
75-15-0	Carbon Disulfide	13 !	Ų	7] -
75-35-4	1,1-Dichloroethene	13	Ü	7
75-34-3	11,1-Dichloroethane	13	Ū	7
540-59-0	1,2-Dichloroethene(total)	13	Ū	7
57-66-3	Chioroform	13	Ü	7
107-05-2	1,2-Dichloroethane	1 13	Ü	1
78-93-3	2-Butanone	13	Ų	٦
71-55-6	1,1,1-Trichloroethane	13	Ū	7)
56-23-5	Carpon Tetracoloride	_ 13	Ü	7)
75-27-4	Bromodicaloromethane	13 (<u>U</u>	7
73-37-5	1,2-Dichloropropane		<u> </u>]
10061-01-5		13	Ũ	1
79-01-5	Trichloroethene		ij.]
124-48-1	Dipromochioromethane		Ü](⋅
79-00-5	1,1,2-Trichloroethane	13	U	7.
71-43-2	Benzene	13	U	<u> </u>
10051-02-5			Ū	7[
75-25-2	Bromoform		Ų	TUJ
103-10-1	4-Methyl-2-Pentanone	13 [Ų.]
591-73-5	2-Hexanone	1 13 1	Ū	<u> </u>
127-13-4	Tetrachloroethene	13	Ū ·	UT
108-38-3	Toluene	13 (Ũ	٦
79-34-5	! 1,1,2,2-Tetrachioroethans	13 }	Ü	7]
103-90-7	Chloropenzene	_ 13	Ü	71
100-41-4	Ethylpenzene	- 1 13	Ü	7
100-42-5	Styrene	1 -13	Ű	7
1330-20-7	Total Kvienes	1. 131	ΰ	

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VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: <u>IEA-NJ</u>	Contract	53550011	HQ932
Lap Code: <u>IEANJ</u> Case No . <u>24569</u>	-		H0931
Matrix (soil/water) <u>Soil</u>		Lab Sample ID	51422004
Sample wc/vol· <u>5</u> (g/mL) <u>g</u>		Lab File ID.	A8123
Level. (low/med) LOW_	.	Dace Received	04/12/95
Moisture, not dec. 24		Dace Analyzed:	04/18/96
GC Column · <u>RTX-624 ·</u> ID · <u>0 53 </u> (mm	4)	Dilution Facto	r. <u>1 0</u>
Soil Extract Volume (uL)	;	Soil Aliquot V	olume:(uL)

CONCENTRATION UNITS (ug/L or ug/Kg)<u>ua/kg</u>

Number TICs Found . , 0

CAS NUMBER	· сом:	POUND NAME	*	RT	EST.	CONC.	Q
01	1						
02 ,	r		*				
03	1						
04 05	1					1	
05	1						
05	**************************************						
07.							
03.							
10.	ŧ			•			
11							
11 12	,						
13 1	<u>.</u>		i				
14	- F		i	i			
13 14 15	‡			- İ			
15			70 minet				
17.							
13.							
19.							
77			!			<u> </u>	
21 22	·						
22			<u>!</u>			<u> </u>	
22.	-						
17. 13. 19. 20 21 22 23. 24. 25 26 27	······································		i				
25							
27	***************************************		1	1			
28.			i			i	
29			İ	i	T.C	1	
30.			1			1	
			I				

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HQ933

la Volatile organics analysis data sheet

_____ Contract. <u>63D50011</u>

CONCENTRATION UNITS:

Lap Code: IEANJ Case No. 24569 SAS No. . SDG No HQ931

Matrix: (soil/water) Water

Lab Sample ID 61422007

Lao Name <u>IEA-NJ</u>

Sample wt/vol· 5 (g/mL)rl Lab File ID: A8083

Date Received: <u>04/12/96</u>

Level: (low/med) | LOW % Moisture: not dec.

Date Analyzed 04/17/96

GC Column: RTX-624 | ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume (uL)

Soil Aliquot Volume: ____(uL)

CAS NO.	COMPOUND	(ug/L or ug/Kg)ug/l	Q	
74-87-3	Chloromethane	10	ប	
74-93-9	Bromomethane	. 10	Ü	11
75-01-4	Vinyl Chloride	10	Ū	1
75-00-3	Chloroethane	10	Ü	11 `
75-09-2	Methylene Chloride	10	Ú	I
57-64-1	Acetone	10	Ü	105
75-15-0	Carpon Disulfice	10	Ű	
75-35-4	1,1-Dicaloroethene	10	Ü	
75-34-3	1,1-Dichloroethane	10	Ú	1
540-59-0	1,2-Dichloroethene(total)	10	Ü	
57-55-3	Coloroform	10	Ū	1
107-05-2	1,2-Dichloroethane	101	Ü	1
78-93-3	2-Butanone	10 (Ü	Ⅱ.
71-55-5	1,1,1-Trichloroethane	101	Ū	Ĭ
56-23-5	Carbon Tetrachloride	. 10 (Ū	
75-27-4	Bromodichloromethane	10 (Ū	
73-87-5	1,2-Dichloropropane	10 (Ü	
10061-01-5		1 10 1	Ű	
79-01-6	Trichloroethene	10	Ũ	
124-43-1	Dipromochloromethane	1 101	Ü	
79-00-5	1,1,2-Trichloroethane	101	Ü	
71-43-2	Benzene	101	Ū	UI
10061-02-6	Trans-1,3-Dichloropropens		·Ü	
75-25-2	Bromotorm		Ü	
108-10-1	4-Methyl-2-Pentanone	10	. /Ü	
591-78-6	2-Hexanone	10	Ü	
127-18-4	Tetrachloroethene	10 (Ü	1
108-88-3	Toluene	10 (Ü	して
79-34-5	1,1,2,2-Tetrachloroethans		Ü	
108-90-7	Chioropenzena	20 (.	Ű	UJ
100-41-4	Ethylbenzene	3 1 10 1	Ü	1.5
100-42-5	Styrene	101	Ū	25
	Total: Kylenes	101	Ū	5

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EPA SAMPLE NO 1

TENTATIVELY IDENTIFIED COMPOUNDS

HQ9	3	3		
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Lab Name: IEA-NJ	Contract:	63D50011	
Lab Code <u>IEANJ</u> Case No <u>24569</u>	SAS No :	SDG No ·	<u> H0931</u>
Matrix. (soil/water) Water		Las Sample ID.	51422007
Sample wc/vol: <u>5 (g/ml) ml</u>		Lab File ID·	A3083
Level: (low/med). LOW		Date Received.	04/12/96
% Moisture: not dec.	-	Date Analyzed:	04/17/95
GC Column. RTX-624. ID: 0 53 (mm)		Dilution Facto	r: <u>1.0</u>
Soil Extract Volume(uL)	*	Soil Aliquot V	olume:(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/l

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.				
02.	· 1			
03.				
04	7/11			
0.5				
06 07.				· .
108.				
09.			1	
10	;			
11.	:			_
12.				
13.				
14	<u> </u>			
15	,			
14 15 16 17.				
12				
19.	<u> </u>			
20.				
20. 21 22 23 24. 25 26 27	ì	i	i	
22				
23				
24.				
25		!		
20				
23				· · ·
29.				
30				
				
	<u> </u>			

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Lab Sample ID: 61422008

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name. IEA-NJ _____ Contract: 63D50011 _____

Lab Code IEANJ (dase No : 24569 SAS No.. _____ SDG No.: HQ931

Matrix. (soil/water)Soil _

Sample wt/vol 5 __(g/mL)g Lab File ID: A8126

Level (low/med) LOW Date Received: 04/12/95

GC Column · RTX-524 ! ID. 0.53 (mm) Dilucion Factor: 1.0

Soil Extract Volume: ____(uL) Soil Aliquot Volume: ____(uL)

CAS NO. COMPOUND ' CONCENTRATION UNITS:'

(ug/L or ug/Kg) ug/kg (

<u> </u>				- 73
74-87-3	Chloromethane	13	ប	
74-83-9	Bromomethane .	13	- U	1
75-01-4	Vinyl Chloride	13 (Ū	71
75-00-3	Cnloroetname	13	Ü	705
75-09-2	Methylene Chloride	13 [Ü	╣
57-54-1	Acetone	13	Ų	105
75-15-0	Carbon Disulfide	1 . 23 /	Ü	
75-35-4	1,1-Dichloroethene	13	Ū	7
75-34-3	1,1-Dichloroechane	13	Ü	7
540-59-0	1,2-Dichloroethene(total)	13	Ü	11
67-66-3	Coloroform	13 1	Ü	1
107-05-2	1,2-Dichloroethane	13	Ū	1
78-93-3	2-Bucanone	13	Ü	1]
71-55-6	1,1,1-Trichloroethane	13	U	71
55-23-5	Carpon Tetrachloride	13	Ū	1
75-27-4	Bromodichloromethane	13	Ū	71
78-37-5	1,2-Dichloropropane	13	Ü	7
10051-01-5	cis-1,3-Dichloropropene	1 13 1	Ų	1
79-01-5	Trichloroethene	1 23	Ü	71
124-48-1	Dipromochioromethane	13	Ū	1
79-00-5	1,1,2-Trichloroethane	131	Ū	1
71-43-2	Benzene	13	Ü	7]
10051-02-5	Trans-1,3-Dichloropropene	1 13	Ü	1
75-25-2	l Browolorm	13	Ũ	105
106-10-1	4-Methyl-2-Pentanone	231	_ 0	il .
591-78-5	2-Hexanone	13	Ü	1
127-13-4	Tetrachloroeinene	13	Ü	105
108-33-3	Toluene	1 23	Ü	11
79-34-5	1,1,2,2-Tetrachioroethane	1 13	Ũ	il
108-90-7	Caloropenzene	13	Ū	1
100-41-4	Echvipenzene	13	Ű	11
100-42-5	Styrene	131	Ü	1
1330-20-7	Total, Xvlenes	1 13 1	Ū	il

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EPA SAMPLE NO DATA SHEET __

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TENTAI	YIZVI	IDENTIFIED	COMPOUNDS

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Lab Name: IEA-NJ	Contract 63D50011	2004
Lab Code: <u>IEANJ</u> Case No.: <u>24559</u>	SAS No SDG No.	<u>HQ931</u>
Macrix. (soil/water) Soil	Lab Sample ID	61422003
Sample wt/vol: 5 (g/mL)g	Lab File ID	A8126
Level: (low/med) LOW .	Date Received	: 04/12/96
% Moisture: not dec. 21	Date Analyzed	: 04/13/96
GC Column: RTX-624 ID: 0.53 (mm) Dilucion Fact	or· <u>1.0</u>
Soil Extract Volume:(uL)	Soil Aliquot	Volume:(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/kg

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.			·	
02	,	-		
03.				
04	· · · · · · · · · · · · · · · · · · ·			
05				
06.		_		
07 03.	<u> </u>			
09.			!	
10.				
11.	·····		<u> </u>	,
12.			1	
13.	1		1	
14.		- 	· · ·	
15.	*	- 	i	
16		i -	1	
17.			1	_
13.	_	1		
19.				
20.		1 .		
21. 22.		<u> </u>	1	
22.		1		
24. 25.	······································			
<u>24.</u>			!	
25.			1 .	•
27.				
23			!	
34			<u> </u>	
30.	•		<u> </u>	 - ; i
٠, ٥٠		<u> </u>		

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PA SAMPLE NO

VOLATILE ORGANICS ANALYSIS DATA SHEET

935

Lab Name: IEA-NJ | Contract: 53D50011

CAS NO. COMPOUND

Lab Code. IEANJ | Case No : 24569 | SAS No : _____ | SDG No : HO931

Matrix: (soil/water) Water Lab Sample ID: 61422009

Sample wt/vol: 5 (g/mL)ml Lab File ID: A8084

Level: (low/med) LOW Date Received: 04/12/95

% Moisture: not dec. _____ Date Analyzed: 04/17/96

GC Column: RTX-624; ID: 0.53 (mm) Dilution Factor: 1 0

Soil Extract Volume: ____(uL) Soil Aliquot Volume: ____(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/l (

[· -	- ⊐
74-87-3	Chloromethane	10	U	
74-83-9	Bromomethane	10	 	-11
75-01-4	Vinvl Chloride	1 10		-11
75-00-3	Cnloroethane .	10	i Ü	-
75-09-2	Methylene Chloride	10	1 	-
57-64-1	Acecone	10	1 . 0	105
75-13-0	Carbon Disulfide	10	U	-11 ~ 3
75-35-4	11.1-Dichloroethene	10	i	-
75-34-3	11,1-Dichloroethane	10	i ŭ	-}
540-59-0	1,2-Dichloroethene(total)	10	Ü	-]]
57-56-3	Chloroform	10	Ü	-
107-05-2	/1,2-Dichloroethane	10	i Ü	-{
78-93-3	1 2-Butanone	10	Ü	-
71-35-6	1,1,1-Trichloroethane	10		-11
56-23-5	Carpon Tetrachloride	10		1
75-27-4	Bromodichloromethane	10		7
78-87-5	1.2-Dichloropropane	10	U	7
10051-01-5	cis-1,3-Dichloropropene	10	i U	7
79-01-5	Trichloroethene	10	U	7
124-43-1	Dipromochloromechane	10	Ū	1
79-00-5	1,1,2-Trichloroethane	1 10	U	1
71-43-2	Benzene	10	U	705
10051-02-5	Trans-1,3-Dichloropropene	10	Ū	71
75-25-2	Bromoforn	10	ĪÜ	7
108-10-1	4-Metnvl-2-Pentanone	10	. U	TI .
591-78-5	2-Hexanone	10	Ŭ	i i
127-13-4	Tetrachloroethene	10	U	┨ .
109-88-3	Toluene	10		کن از
79-34-5	1,1,2,2-Tetrachloroethane	10	Ü	71 7
108-90-7	Chloropenzene	10	Ū	ilur
100-41-4	Schvipenzene	10	Ū	105
100-42-5	Styrene	10	Ū	105
1330-20-7	Total XVIenes	10	Ü	105

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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSI TENTATIVELY IDENTIFIED	
	HQ935

cas	Name:	IEA-NJ	Contract.	<u> 63D50011</u>	
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Lab Code: IEANJ Case No.: 24569 SAS No.: - SDG No · HO931

Matrix: (soil/water) Water Lab Sample ID . <u>51422009</u>

Sample wt/vol: 5 (g/mL)ml Lab File ID: A8084

Date Received: 04/12/96___ Level: (low/med): LOW_

Date Analyzed: 04/17/96 % Moisture: not dec. _____

GC Column: RTX-624! ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ____(uL) Soil Aliquot Volume: ____(uL)

CONCENTRATION UNITS:

_(ug/L or ug/Kg)<u>ua/l</u> Number TICs Found: 0

CAS NUMBER : COMPOUND NAME	RT.	EST. CONC.	Ø
01			
02	<u> </u>	i	
03			
04			
05.			
06.			
07			
03.			
09.			
10.]]
11 12.			
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1 1 2			
14. 15 16. 17 18.			
15.		-	
18.			
19 20	***************************************	-	
20			
21 22 23		1	
22			
23			
24			-
25 25			
25			
27.		<u> </u>	!
23		<u> </u>	
29	!		[
30.			

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EPA SAMPLE NOT 2

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: IFA-NJ Contract 69D50011

Lab Code: <u>IEANJ</u> Case No. . <u>24569</u> SAS No. _____ SDG No. . <u>HQ931</u>

Matrix: (soil/water) Water Lab Sample ID 61422011

Sample wt/voi. 5. (g/mL)ml Lab File ID: A3035

Level: (low/med) LOW Date Received: 04/12/96

 % Moisture: not dec.
 Date Analyzed: 04/17/96

 GC Column. RTX-624 ! ID: 0.53 (mm)
 Dilucion Factor: 1.0

Soil Extract Volume: ____(uL) Soil Aliquot Volume: ____(uL)

CAS NO. COMPOUND CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l (

				ግ
74-87-3	Chloromethane	10	U	-
74-83-9	Bromomethane -	10	Ū	1
75-01-4	Vinvi: Chloride	10		1
75-00-3	Chloroethane	10	Ū	1
75-09-2	Methylene Chloride	10	Ū	-1]
67-64-1	Acetone	10	- Ū	1105
75-15-0	Carpon Disulfide	10	Ü	10-
75-35-4	1,1-Dichloroethene	10 1	Ü	1
75-34-3	1,1-Dichloroethane	10	ਹ	11
540-59-0	1,2-Dichloroechene(cotal)	10	Ū	1
57-55-3	Chloroform	10	-	1
107-06-2	1,2-Dichloroechane	10	Ū	11
78-93-3	2-Butanone	10	Ū	1
71-55-6	1.1.1-Tricaloroethane	10	Ū	1
55-23-5	Carbon Tetrachloride	10	Ū	1
75-27-4	Bromodichloromethane	10	U	11
78-37-5	1,2-Dichloropropane	10 (Ū	11
10061-01-5	cis-1,3-Dichloropropene	10	Ū	il
79-01-5	Trichloroethene	1 -10	Ü	il
124-48-1	Dibromochioromethane	10.	Ü	îl 💮
79-00-5	1,1,2-Trichloroethane	10 (Ū	1
71-43-2	Benzene	10	Ū	1
10051-02-6	Trans-1,3-Dichloropropene	10 !	Ü	11
75-25-2	Bromoform	10 1	Ū	1]
103-10-1	4-Methvl-2-Pentanone	10	_ U	1
591-78-6	2-Hexanone	10	Ū	1
127-13-4	Tetrachloroethene	10	Ū.	1
103-33-3	Toluene	10 1	Ū	1
79-34-5	1,1,2,2-Teirachloroethane	10	Ü	il
103-90-7	Chloropenzene	10	Ü	il
100-41-4	Ethylbenzene	10	Ü	1
100-42-5	Styrene	10	Ü	
1330-20-7	TotaliXvienes	10	Ü	1

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1E VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

HQ936	
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Lab Name: <u>IEA-NJ </u>	Contract <u>68D50011</u>
Lab Code. <u>IEANJ</u> Case No.: <u>24569</u>	SAS No · SDG No · HO931
Matrix (soil/water) Water	Lab Saπple ID· <u>61422011</u>
Sample wc/vol: $\frac{5}{}$ (g/mL) ml	Lab File ID: A8086
Level: (low/med) LOW	Date Received 04/12/96
* Moiscure. not dec.	Date Analyzed. 04/17/96
GC Column: RTX-524 ID: 0.53 (mm) Dilution Factor 1.0
Soil Extract Volume (uL)	Soil Aliquot Volume:(uL)

CONCENTRATION UNITS (ug/L or ug/Kg) ug/l Number TICs.Found:: 0

CAS NUMBER	, COMPOUND NAME	RT	EST. CONC.	Q
01	1	- /		
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OLM03 0

SPA SAMPLE

VOLATILE ORGANICS ANALYSIS DATA SHEET

		- HQ937
Contract:	63D50311	

Lab Code IEANJ Case No . 24569 SAS No . . ____ SDG No HQ931

Lab Name. <u>IEA-NU</u>

Matrix. (soil/water) <u>Water</u> Lab Saπple ID. <u>61422010</u>

Sample wt/vol: 5 (g/mL) pl Lab File ID: A3035

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: not ded. _____ Date Analyzed. 04/17/96__

GC Column: RTX-524 | ID: 0 53 (mm) Dilution Factor: 1 0

Soil Extract Volume: ____(uL) Soil Aliquot Volume: ____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/l		0	
					_
					7
74-37-3	Chloromethane		10	Ü	╝
74-33-9	Bromomethane		10!	Ű	
75-01-4	Vinvl Chloride		101	Ü]
75-00-3	Chloroethane		10 i	Ü	_
75-09-2	Methylene Chloride		10 1	Ū	_]
57-54-1	Acetone		10	Ü	02
75-15-0	Carpon Disultide		10	Ü][
75-35-4	1,1-Dichloroethene		10	Ü]}
75-34-3	1,1-Dichlorosthane		10	U]]
540-59-0	1,2-Dichloroethene(total)		10 i	Ŭ]
57-55-3	Chioroform		10	Ū]].
107-05-2	1,2-Dichloroethane		10	Ü]
78-93-3	2-Butanone		10	Ü][
71-55-5	1,1,1-Tricaloroethane	ļ	10	Ü	1
56-23-5	Carpon Tetrachloride		10	Ü][
75-27-4	Bromodichloromethane		10 !	Ŭ,][
78-37-5	1,2-Dichloropropane		10	Ü)
10051-01-5	cis-1,3-Dichloropropene		10	Ü	
79-01-5	Trichloroethene		10	Ū]]
124-45-1	Dipromochioromethane		10	Ü	
79-00-5	1,1,2-Trichloroethane		10 !	Ü	1
71-43-2	Benzene		10	Ü	105
10051-02-5	Trans-1,3-Dichloropropene		10 I	Ũ	Ī
75-25-2	Bromoform		101	Ü	īl
108-10-1	4-Methyl-2-Pentanone		10	U	1
591-73-5	2-Hexanone		10 i	Ü]]
127-13-4	Tetrachloroethene		10 1	Ü	1
103-55-3	Toluene		10:	U	105
79-3:-5	1,1,2,2-Tetrachioroethane		10 1	Ü.	11
108-90-7	Chloropenzene		10 1	. U	105
100-41-4	Ethylpenzene		10	Ü	105
	Sovrene		10 1	Ü	105
1333-20-7	Total-Xvlenes	<u> </u>	10	Ü	105
	· · · · · · · · · · · · · · · · · · ·				<u>۔ ۔ ت</u>

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EPA SAMPLE NO

Soil Aliquot Volume: ____(uL)

LE EPA VOLATILE ORGANICS ANALYSIS DATA SHEET __

TENTATIVELY	IDENTIFIED	COMPOUNDS	
	~		HQ937
	Can=	53750011	ĺ

Lab Name: <u>IBA-NJ</u>	Contract	· <u>68D50011</u> L	
Lab Code: <u>IEANJ</u> Čase No.: <u>24569</u>	SAS No	SDG No. :	<u>:0931</u>
Matrix: (soil/water) <u>Water</u>	· ·	Lab Sample ID	51422010
Sample wt/vol· 5 (g/nL) ml	· —- ,	Lab File ID.	A3085
Level: (low/med) LOW	• ·	Dace Received.	04/12/96
Moisture: not dec.		Date Analyzed:	04/17/95
GC Column: <u>RTX-624 !</u> ID: <u>0.53</u> (mm)		Dilution Factor	: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/l

Number TICs Found. 0

Soil Extract Volume: ____(uL)

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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14 15. 16 17.	, <u>, , , , , , , , , , , , , , , , , , </u>			<i></i>
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FORM I VOA-TIC

1A EPA SAMPLE NO

4 VOLATILE ORGANICS AMALYSIS DATA SHEET

					•	HQ938
a o	Name.	<u> EEA-NJ</u>	·	Contract	63D50011	,

Lap Code. IEANJ | Case No.. 24569 | SAS No. ____ | SDG No | HO931

Matrix (soil/water) Soil Lab Sample ID: 61422012

Sample wt/vol: 5 (g/mL)g Lab File ID: A8127

Level. (low/med) LOW Date Received: 04/12/95

% Moisture: not dec. 35 Date Analyzed: 04/18/95

GC Column: RTX-524: ID. 0.53 (mm) - Dilution Factor: 1.0

Soil Extract Volume: ____(uL) Soil Aliquot Volume: ____(uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/kg Q

				ור
74-87-3	Chloromethane	15	Ū	-
74-83-9	Bromometnane .	15	Ü	1
75-01-4	Vinyl Chloride	15	Ü	71
75-00-3	Coloroethane	15	Ū	105
75-09-2	Methylene Chloride	15	Ü	1
67-64-1	Acetone	15	Ü	11:5
75-15-0	Carbon Disulfide	15	Ü	1 -
75-35-4	1,1-Dichloroethene	15	Ū	1
75-34-3	1,1-Dichloroethane	15	Ü	1
540-59-0	1,2-Dichloroethene(total).	15	Ū	11
57-55-3	Cnloroform	1. 15	Ū	7
107-06-2	1,2-Dichloroethane	15	Ū	1
78-93-3	2-Butanone	1 15	Ü	1
71-55-6	11,1,1-Trichloroethane	15	U	îl .
55-23-5	Carbon Tetraculoride	15	Ü	1
75-27-4	Bromodichloromethane ,	15 (Ü	1
78-87-5	1,2-Dicaloropropane	! 15)	Ü	1
10051-01-5	cis-1,3-Dichloropropene	15	Ű·	1
79-01-6	Trichloroethene	15	.0	1
124-43-1	Dipromocaloromethane	! 15	Ŭ.	1
79-00-5	1,1,2-Trichloroethane	1 15	Ü	Ĩ.
71-+3-2	Benzene	15	Ū	1
10061-02-6	Trans-1,3-Dichloropropene	15	Ų	ll .
75-25-2	Bromoiorm	15	Ü	115
103-10-1	4-Methyl-2-Pentanone	15 [Ü	
591-78-6	2-Hexanone	15	Ü	il
127-18-4	Tetrachloroethene	151	U	ルゴ
103-38-3	Toluene	15	ម -	i]
79-34-5	1,1,2,2-Tetrachloroethane	15	Ų	il
103-90-7	Chloropenzene	15 1	· U	
100-41-4	Ethylpenzene	15-1	Ű.	il
100-42-5	Styrene	1 15 1	Ü	il
1330-20-7	Total Xvlenes	1 15 1	Ū	il

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106/10/96

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EPA SAMPLE NO.

- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	TOENTIFIED COMPOUNDS	HO938
Lap Nare IEA-NO :	Contract <u>63D53011</u>	
Lab Code: <u>IEANJ</u> Case No. <u>24569</u> S	SAS No. · SDG No. ·	<u>H0931</u>
Matrix (soil/water) Soil	Lab Sample ID	: <u>61422012</u>
Sampla wt/vol· <u>5</u> (g/mL) <u>g</u>	Lab File ID.	<u>A3127</u>
Level· (low/med) LOW	Date Received	04/12/96
Moisture, not dec. 35	Date Analyzed	: 04/18/95
GC Column : RTX-524 ID: 0 53 (mm)	Dilution Facto	or· <u>1.0</u>
Soil Extract Volume:(uL)	Soil Aliquot V	/olume(ub)

CONCENTRATION UNITS: -(ug/L or ug/Kg)ug/kg

Number TICs Found ! 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01 .				
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FORM I VOA-TIC

lb |semivolatile organics analysis data shee

HQ931

________Constact -<u>66D50011</u> Lab Code: IEANJ | Case No | 24569 | SAS No .. _ | | SDG No : HQ931 Lap Sample ID: <u>61422001</u> Matrix (soil/water) Water Sample wt/vol: 1000 (g/mL)ml · Lab File ID· <u>H2145</u> Level (low/med) LOW Date Received: 04/12/95 decanted. (Y/N) ___ , Date Extracted 04/15/95 1 Moiscure. Concentrated Extract Volume: 1000 (ub) Date Analyzed. 04/19/96 Injection Volume 2.. (uL) Dilution Factor: 1.0

рH __

CAS NO . COMPOUND

GPC Cleanup. (Y/N)N

CONCENTRATION UNITS. (ug/L or ug/Kg)ug/l

(1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
		10	
103-95-2	Phenol	10	<u>u</u>
111-44-4	Bis(2-Chloroethyl)Ether .	10	Ŭ,
95-57-3	2-Chlorophenol	101	Ü
541-73-1	1,3-Dichlorobenzene	10	Ü
105-45-7	1,4-Dichlorobenzene	1 10	U
95-50-1	11,2-Dichloropenzene .	101	Ū .
95-48-7	2-Methylphenol	10	Ü
103-50-1	2,2'-Oxypis(1-Chloropropane)	10.	Ū
106-44-5	4-Metnylonenol	10	Ü.
621-64-7	N-Nicrosodi-N-Propylamine	10)	υ .
57-72-1	Hexachloroethane	10	Ū.
98-95-3	Nitropenzene	10 1	Ü
73-59-1	Isophorone	1 10 1	Ü i
33-75-5	2-Nitgophenol	10 /	U
105-67-9	2,4-Dimernylphenoi	1 10 1	Ű
111-91-1	Bis(2-Chloroethoxy) Methane .	10	U
120-33-2	2,4-Dichlorophenol	1 . 10	Ü
120-32-1	1,2,4-Trichloropenzene -	1 10 1	Ü
91-20-3	Naphchalene	10	U .
105-47-3	4-Chioroaniline	10	Ü.
37-53-3	/ Hexachloroputaciene	10	Ü
59-50-7	4-Cnloro-3-Methylphenol	10	Ü
91-57-6	2-Methylnaphthalehe	10 (U
77-47-4	Hexachiorocyclopentaclene	101	บ
1 33-05-2	2,4,5-Trichlorophenoi	1 10 1	- U - -
95-95-4	2,4,5-Trichlorophenol	25	-
91-53-7	2-Chloronaphthalene	10	-
33-74-4	1 2-Nicroaniline	25 1	- 0 - 1
131-11-3	Dimethylphthalate	10	Ū -i
203-36-3	Acenaphenylene	10	-
505-20-2	12.5-Dinitrotoluene	10	<u> </u>
99-09-2	13-Nitroaniline	25	- 0 -
33-32-9	Acenaphonene	101	

FORM I

OLM03.0

TC 61-21-76

1C SEMIVOLATILE ORGANICS ANALYSIS DATA SHEE

HQ931 Lab Name <u>IEA-NJ ¹</u> Contract · 68D50011 Lab Code. IEANJ Case No · 24569 SAS No. _____ SDG No.. HO931 Lap Sample ID: <u>61422001</u> Macrix: (soil/water) Water 1000 (g/mL) ml Lab File ID: H2145 Sample wt/vol Level: (low/med): LOW_ Date Received: 04/12/96 _____ decanted (Y/N)___ Date Extracted 04/15/96 % Moisture: Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/19/96. Injection Volume: 2 (uL) Dilucion Factor. 1.0

GPC Cleanup: (Y/N)N pH.____

CONCENTRATION UNITS. (ua/L or ua/Ka)ua/l

CAS NO.	COMPOUND	(ug/L or µg/Kg)ug/l	Q '
51-23-5	2,4-Dinitrophenol	25	U U
100-02-7	44-Nitrophenol .	25	Ü
132-54-9	Dibenzoluran	1 10	I U
121-14-2	2,4-Dinitrotoluene	10	1 0 1
84-55-2	Diethylphchalace	10	U
7005-72-3	14-Cniorophenvi-Phenvi Eche	er 10	i ü i
85-73-7	Fluorene	10	Ü
100-01-5	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-Methylpheno.	1 25	Ü
85-30-5	N-Nicrosodionenvlamine (1)) 10	U
101-55-3	4-Bromophenyl-Phenylether	1 10	Ü
118-74-1	Hexacaloropenzene	10	U
87-86-5	Pencachiorophenol	25	U U
85-01-8	Phenanchrene	10	U
120-12-7	Anchracene	10	Ū
85-74-8	Carbazole	10	Ü
84-74-2	Di-N-Bucvlonenalate	10	U
205-44-0	Fluoranchene	1 10	Ü
129-00-0	Pyrene	1 10	U U
35-53-7	Butvloenzyloninalate	1 10	Ü
91-94-1	13,3'-Dichloropenziaine	1 10	Ü
56-55-3	Benzo (A) Anthracene	1 10	0
213-01-9	Chrysene	1 10	Ü
117-31-7	Bis(2-Ethvinexvi)Phinalate	10	Ü
117-34-0	Di-N-Octvlonshalate	! 10	Ü
205-99-2	Benzo(B) Fluoranthene	10	Ü
207-03-9	Benzo(K) Fluoranthene	1 10	Ü
50-32-3	Benzo(A) Pyrene	10	U
193-39-5	Indeno(1,2,3-Cd) Pyrene	1 10	Ü
53-70-3	Dipenz (A, H) Anthracene	1 10	ਹ
191-24-2	(Benzo (G, h, i) Perviene	10	i i

FORM I SV-2

10 0/12/96

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EPA SAMPLE NO SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

Lap Name. IEA-NJ Contract	: 53050011	
Lab Code <u>IEANJ</u> Case No · <u>24569</u> SAS No	SDG No .	<u>HQ931</u>
Matrix (soil/water) Water	Lap Sample ID	51422001
Sample wt/vol 1000 (g/mL)ml _	Lab File ID·	H2145
Level. (low/med), <u>LOW</u>	Date Received:	04/12/95
% Moisture decanted: (Y/N)	Date Extracted	·04/16/96
Concentrated Extract Volume: 1000 (uL)	Date Analyzed:	04/19/96

GPC Cleanup: (Y/N)N pH:__

Number TICs Found 5

Injection Volume: (2 ___(uL)

CONCENTRATION UNITS (ug/L or Lg/Kg)ug/l

Dilution Factor: 1 0

CAS NUMBÉR	COMPOUND NAME	RT	EST. CONC	Q
01	Unknown	18 44	5	· J
02	Unknown	21 04	5	<u> </u>
03.	Unknown Alconol	1 19 87	2	
04	Unknown	20 15	2	J J
05	Unknown Alcohol	16.50	2	Ĵ i
05.		i !	İ	-
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FORM I SV-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHE

HQ932

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Contract: 66D50011

Lab Code IEANJ Case No 24569 SAS No., ____ SDG No . HQ931

Matrix: (soil/wateb) Soil Lap Sample ID. <u>51422004</u>

Sample wt/vol. $\frac{1}{30}$ (g/rL) $\underline{\sigma}$ Lap File ID: H2160

Level· (low/med) <u>LOW</u> Date Received: 04/12/96

 $\frac{1}{2}$ Moisture. $\frac{24}{2}$ decanted $\frac{1}{2}$ Date Extracted: 04/17/96

Concentrated Extract Volume 500 (uL) Date Analyzed 04/22/96

Injection Volume: [2 (uL) . Dilucion Factor: 1 0

GPC Cleanup: (Y/N)Y pH:7.82

COMPOUND

Lap Name · IEA-NJ

CAS NO

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/kg

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		***************************************	
103-95-2	Phenol	430	Ū
111-44-4	Bis(2-Chloroethyl)Ether	430	Ü
95-57-3	2-Chlorophenol	430	Ū
541-73-1	/1,3-Dichloropenzene	430	Ü
106-45-7	1,4-Dichloropenzene	430	Ū
95-50-1	1,2-Dichioropenzene	430	. 0
95-48-7	2-Methylphenol	430	Ü
108-60-1	2,2'-Oxvois(1-Chloropropane)	430 )	Ū
105-44-5	4-Metnylphenol	430	Ü
521-54-7	N-Nitrosodi-N-Propylamine	430	Ü
57-72-1	Hexachloroethane	430	Ū
98-95-3	Nicropenzene	430	IJ
78-59-1	1 Isophorone	430	Ū
38-75-5	2-Nitrophenol	430	Ü
105-67-9	2,4-Dimethylphenol	1 430	U I
111-91-1	Bis(2-Chloroechoxy) Methane	430 1	Ü
120-33-2	2,4-Dichlorophenol	+ 430	Ü
120-32-1	1,2,4-Tricaloropenzene	1 730 1	Ü
91-20-3	Naphchalene	430	U-
106-47-3	! 4-Cnloroaniline	430	Ü
37 <b>-</b> 53-3	Hexachloroputadiene	! 430 ;	Ü
59-50-7	4-Cnloro-3-Methylphenol	1 430	Ű.
91-57-5	2-Mechylnaphthalene	430 [	Ü
77-47-4	Hexachlorocyclopensaciene	430 1	Ü
\$3-05-2	12,4,5-Trichlorophenol	430 1	. Ü
95-95-4	12,4,5-Trichlorophenol	1 1100	Ü
91-53-7	1 2-Chioronaphthalene	: 430 [	Ü
88-74-4	12-Nitroaniline	110,0	U
131-11-3	! Direchylphonalace	1 430 (	Û
203-95-3	Acenaphthylene	430	Ü
606-20-2	12,5-Dinitrotoluene .	430	- 0
99-09-2	. 3-Nitroaniline	1100	TU
33 <u>-</u> 32-9	T Acenabhonere	430 1	<del></del>

FORM I SV-1

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TC 61.2/96

SEMIVOLATILE ORGANICS ANALYSIS DATA SHE

Contract 68050011

HQ932

Lap Code: <a href="mailto:IEANJ">IEANJ</a> Case No . <a href="mailto:24569">24569</a> SAS No . <a href="mailto:IEANJ">IEANJ</a> SDG No <a href="https://HO931">HO931</a>

Matrix: (soil/water) Soil Lap Sample ID: <u>61422004</u>

<u>30</u> (g/mL)g Lab File ID·· H2160 Sample wt/vol.

Level: (low/med) LOW Date Received: 04/12/96

Date Extracted · 04/17/95 % Moisture: 24 decanted. (Y/N)N

Concentrated Extract Volume. 500 (uL) Date Analyzed. <u>04/22/95</u>

Injection Volume: 2 (uL) Dilution Factor: 1.0

GPC Cleanup (Y/N) Y pH: 7.82

CONCENTRATION UNITS. CAS NO. COMPOUND (ug/L or ug/Kg)ug/kg

51-23-5	2.4-Dinitrophenol.	1100	ະ ∥ _∪
100-02-7	4-Nitrophenol	1100	<del>-</del>
132-54-9	Dibenzoluran	1 130 1	<del>-</del>
121-14-2	12,4-Dinitrotoluene	430	<del></del>
34-55-2	Dietnylphthalate	430	<del>U</del>
7005-72-3	4-Cniorophenyl-Phenyl Ether	430 1	Ü
85-73-7	Fluorene	+30	Ü
100-01-6	4-Nitroaniline	1 1100	Ü
534-52-1	4,6-Dinitro-2-Methylphenol	1100	U
86-30-6	N-Nitrosodiphenylamine (1)	430	Ü
101-55-3	4-Bromophenvi-Phenylether	430	U
118-74-1	Hexachloropenzene -	430 (	U
87-36-5	Pentachlorophenol	1_00	U
85-01-8	Phenanchrene	1 441	J
120-12-7	Anchracene	1 +301	· Ü
36-74-8	Carpazole	1 . 430 1	Ü
34-74-2	Di-N-Butvlontnalate	430	U
205-44-0	Fluoranthene	35	J ·
129-00-0	1 Pyrene	430	Ū
35-58-7	Butytoenzytoninalate	430 1	Ü
91-94-1	3,3'-Dichloropenzidine	1 430	U
36-55-3	Benzo(A) Anthracene	430 /	<u> </u>
218-01-9	Chrysene	54 1	Ĵ
117-31-7	Bis(2-Sthylnexyl)Phanalate	== 1	J I
117-84-0	Di-N-Octyloninalate	1 +30 1	U
205-99-2	Benzo(B) Fluoranthene	53 1	J
207-08-9	Benzo(K) Filoranthene	-30 I	Ü
50-32-3	1 Benzo (A) Pyrene	1 430 1	J
193-39-5	Indeno(1,2,3-Cd)Pyrana	430	U
53-70-3	Dipenz (A, H) Anchracene	430	U
191-24-2	: Benzo (G. H. I) Perytene	430 1	Ü

FORM I SV-2

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EPA SAMPLE NO

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

20	2	7	2
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Lap Name. IEA-NJ	Contract.	53050011	
Lao Code. <u>IEANJ</u> Çase No <u>24569</u>	SAS No :	, SDG No	<u>HO931</u>
Matrix (soil/water) Soil	_ I	Lab Sample ID	51422004
Sample we/vol· ! 30 (g/mL)g	:	Lao File ID.	H2160
Level: (low/med) LOW	<u>.</u>	Date Received.	04/12/96
* Moiscure: 24 decanted: (Y/N	) <u>N</u>	Date Extracted	04/17/96 ~
Concentrated Extract Volume 500	_(uL) [	Date Analyzed.	04/22/95
Injection Volume 2 (uL)	·	Dilution Factor	: <u>1.0</u>

рн <u>7.82</u>

Number TICs Found: 5

(A\N) <del>A</del>

GPC Cleanup.

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/kg

<u> </u>	T	<del></del> _	1	
CAS NUMBER	COMPOUND NAME	· RT	EST. CONC.	Q
01	Aldor Condensation Product	4 25	7700	·1793
02	J Unknown.	3 82	1100	- JB
03	Unknown	5.05	740	J
04	Unknown	16 30	290	J
05.	Unknown Acid	18 24	190	J
06.		1		
07.	· · · · · · · · · · · · · · · · · · ·			-
03	- '	•		
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17.	·	7	7.00	i
13		i		·i
18 19		<u> </u>		i
20.		<u> </u>		
2:			·	i.
22.		<del></del>		
23.		<del></del>		i
24	- 1	<del>-ii</del>		
25		<del></del>		<del></del>
25		· · ·		
27			I	
2.8	**************************************		· · · · · · · · ·	
29.		<u>i</u> !		
30				
JU		<u> </u>		
<u></u>	1	1 1		11

FORM I SV-TEC

OLM03 0

SEMIVOLATILE ORGANIUS ANALYSIS DATA	COC175 EPA SAMPLE NO.
Lab Name <u>IEA-NJ</u> Contract <u>63D50011</u>	HQ933
Lap Code. <u>IEANJ</u> Case No. <u>24569</u> SAS No · SDG :	
Macrix (soil/water) <u>Water</u> Lab Sample	e ID <u>61422007</u>
Sample wt/vol: 1000 (g/mL)ml Lab File :	ID: <u>H2148</u>
Level (low/med) <u>LOW</u> Date Recei	lved : <u>04/12/95</u>
Moisture decanted. (Y/N) Date Extra	ecced:04/16/96
Concentrated Extract Volume 1000 (uL) Date Analy	/zed <u>04/19/96</u>
injection Volume: ; 2(uL) Dilution F	actor <u>1.0</u> .

GPC Cleanup: . (Y/N)Nрн:___

СОМЪО́ПИО CAS NO

CONCENTRATION UNITS. (ug/L or ug/Kg)ug/l

Q

[: <del></del>				ন .
103-95-2	Phenol	10	ប៊	UJ
111-44-4	Bis(2-Chloroethvl)Ether	101	<del></del> Ū	1
95-57-3	2-Chlorophenoi	10	<u> </u>	il
541-73-1	1,3-Dichloropenzene	10	Ü	:
105-45-7	1,4-Dicaloropeazene	101	U	il
95-50-1	1,2-Dichloropenzene	10	Ü	11
95-43-7	2-Methylphenol	10 1	Ű	1
103-50-1	2,2'-Oxybis(1-Chloropropane)	10	Ü	il
106-44-5	4-Methylphenol	10	Ü	il
521-54-7	N-Nitrosodi-N-Propvlamine	10	บ	ll .
67-72-1	Hexachloroethane	10	U	il i
93-95-3	Nicropenzene	1 101	Ü	11
78-59-1	Isophorone	101	Ü	jj
33-75-5	2-Nitrophenol	1 10 1	-Ū ·	l <b>i</b>
105-57-9	2,4-Dimetnylphenol	1 10 1	<u> </u>	
111-91-1	Bis(2-Chloroethoxy) Methane .	101	Ü	1
120-33-2	12,4-Dichlorophenol	10 (	ŬI	il .
120-32-1	11,2,4-Trichloropenzene	1 10 1	Ŭ I	il
91-20-3	Naphinalene	1 10 1	Ų į	il
105-47-3	4-Chioroaniline	10 (	Ū_	
37-63-3	Hexachloroputaciene	101	Ū·	il
59-50-7	4-Chloro-3-Methylphenol	- 10	<u>"U</u>	1
91-57-5	2-Methylnaphthalene	1 10	ו יי	il
77-47-4	Hexachlorocyclopensaciene	101	υ	UT
38-05-2	12,4,5-Trichlorophenol	1 101		ı
95-95-4	2,4,5-Trichlorophenol	1 25 ;	Ü }	A
91-53-7	2-Chloronaphthalene	101	Ü	
33-74-4	2-Nitroaniline	25 !	T U	
131-11-3	Dimethylphthalate	1 10 ;	ij	
208-35-3	Acenaphthylene	1 10 1	U )	1
505-20-2	12,6-Dinitrotollene	:10]	Ü	
99-09-2	3-Nitroaniline	1 25 [	ا <u>ن</u>	
33-32-9	<u>L'Acenaphinene</u>	101		

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OLM03 0

100 (12)96

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name : IEA-NJ /. Contrac	:t: <u>63050011</u> - EQ933
Lab Code: <u>IEANJ</u> Case No : <u>24569</u> SAS No	SDG No <u>H0931</u>
Matrix (soil/water) Water	Lab Sample ID 61422007
Sample wc/vol: 1000 (g/mL)ml	Lab File ID <u>H2148</u>
Level· (low/med) LOW	Date Received. <u>04/12/96</u>
% Moisture: decanted: (Y/N)	Date Extracted 04/15/95
Concentrated Extract Volume. 1000 (uL)	Date Analyzed 04/19/95
Injection Volume: 2 (uL)	Dilution Factor. 1 0
GPC Cleanup: (Y/N)N pH:	•

CONCENTRATION UNITS COMPOUND (ug/L or ug/Kg) ug/1 CAS NO.

,			<u> </u>
52 20 5	2 4 7/4/2004	3-1	II.
51-28-5	2,4-Dinitrophenol	25	بالليق اب
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	101	Ü
121-14-2	2,4-Dinitrotoluene	101	U
84-55-2	Diethylonchalate	1 101	Ü
7005-72-3	4-Chlorophenyl-Phenyl Ether	101	Ü
85-73-7	Fluorene	10 [	Ü
100-01-5	4-Nitroaniline	25	ŬI
534-52-1	4,6-Dinitro-2-Methylphenol	25 [	Ü
85-30-5	N-Nitrosodiphenylamine (1)	10	U I
101-55-3	4-Bromophenyl-Phenylether	10 1	U
118-74-1	Hexachloropenzene	101	Ü
37-86-5	Pentachlorophenol	1 25 1	U
85-01-8	Pnenanthrene	101	Ū,
120-12-7	Anthracene	10 [	Ū į
35-74-8	Carbazole	1 101	U
34-74-2	Di-N-Bucvlonchalate	10	U I
206-44-0	Fluoranthene	101	U
129-00-0	Pyrene	10	U
35-53-7	Bucylpenzyiphthalace	101	U
91-94-1	3,3'-Dichloropenzicine	1 10 1	U
55-55-3	Benzo(A) Anchracene	1 10 1	Ü
213-01-9	Chrysene	10	<del>U</del>
117-31-7	Bis(2-Ethvinexvi)Phthalate	101	Ü
117-34-0	Di-N-Octylonthalate	101.	. <del>Ū</del>
205-99-2	Benzo(B) Fluoranchene	10	Ü
207-03-9	Benzo(K) Fluoranthene	10	<del>- i</del>
50-32-3	Benzo (A) Pyrene	101	Ü
193-39-5	Indeno(1,2,3-Cd)Pyrene	1 101	<del>- 0  </del>
53-70-3	Dipenz (A, H) Anchracene	101	<del>- j</del>
191-24-2	Benzo(G H.I) Perviene	10 1	<del>- j -  </del>
	<u> </u>		

FORM I SV-2

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3 E	خاند مستدك اد			olo bala oni
	マニシマン	TIVET V	IDENTIFIED	COMPOUNDS

Lap Name IFA-NJ	Contract <u>#3D50011</u> = =Q933
Lap Code: <u>IEANJ</u> Case No <u>24569</u> SA	
Matrix: (soil/water) Water	Lap Sample ID <u>61422007</u>
Sample wc/vol.   1000 (g/mL)ml	Lab File ID <u>H2148</u>
Level: (low/med) LOW_	Date Received: 04/12/96
% Moisture:decanted: (Y/N)_	Date Extracted. <u>04/16/96</u>
Concentrated Extract Volume: 1000 (	uL) Date Analyzed. <u>04/19/96</u>
Injection Volume: 2 (uL)	Dilucion Factor: 1.0
GPC Cleanup (Y/N)N pH:	

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/l

Number TICs Found: 1

CAS NUMBER	COMPOUND NAME	RT	EST	CONC	Q
01.	Unknown Alcohol	21 25		4	J
02.					
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19 20.		<u> </u>			
21		i		<del></del>	
22	·			<u>'</u>	
23.				<del></del>	
24				i	
25					4
25.		i		<u>i</u>	
27.		i		i	
28				i	·····
29				i	
30 i	1			1	
				1	

______Contract. <u>63050011</u>

HQ934

Lab Code: IEANJ | Case No . 24569 | SAS No SEG No : HO931 Lab Sample ID 61422008.

Matrix: (soil/water) Soil

Sample wt/vol 30 (g/mL) g

Level: (low/med); LOW

% Moisture: 21 decanted: (Y/N)N

Concentrated Extract Volume 500 (ul) Date Analyzed 04/22/96

Injection Volume: 2 (uL) - Dilution Factor 10

CAS NO. COMPOUND

GPC Cleanup: (Y/N)Y pH 8 22

Lab Name <u>IEA-NU</u>

CONCENTRATION UNITS:

(ug/L or ug/Kg)<u>uc/kc</u>

Lao File ID. <u>H2163</u>

Date Received. 04/12/95

Date Extracted 04/17/96

103-95-2	Phenol	420	ū.
111-44-4	Bis(2-Chloroethvl)Ether .	420	Ū
95-57-8	2-Chlorophenol	1 20 1	<del></del> :
541-73-1	1.3-Dichloropenzene	420 1	- <del>0</del>
105-45-7	11,4-Dichloropenzene	420 1	Ü
95-50-1	1,2-Dichioropenzene	-20	Ü
95-48-7	1 2-Metnylphenol	420 1	Ü
108-60-1	12,2'-Oxypis(1-Cnloropropane)	1 420 1	Ü
106-44-5	! 4-Methylphenol	1 . ±20	Ū
521-64-7	N-Niprosodi-N-Propylamine	120	Ū
57-72-1	Hexacaloroethane	420	Ū
98-95-3	Nitropenzene	1 -20	Ü
73-59-1	Isophorone	420 !	Ü
33-75-5	2-Nicrophenoi	420 1	Ü
105-57-9	2,4-Dimethylphanol	120	Ü
111-91-1	Bis(2-Chloroechoxy) Methane	1 420	_U
120-33-2	2,4-Dichlorophenol	₹20	Ü
120-32-1	1,2,4-Trichloropenzene	: €20	U
91-20-3	Naphinalene	1 420 1	Û
105-47-3	4-Cnloroaniline	1 420	Ű
37-68-3	Hexachloroputablene	1 420 1	ا ٠ ز
59-50-7	14-Chloro-3-Methylphenol	420	G ·
91-57-6	2-Methylhaphthalene	420	Ü
77-47-4	Hexachlorocyclopentadiene	1 420 1	ं छ
33-05-2	: 2,4,6-Trichiorophenol	420	<u>, ()</u>
95-95-4	2,4,5-Trichlomophenol	1000	Ü
91-53-7	2-Chioronaphthalene	1 420	5 1
33-74-4	2-Nitroaniline	1 00001	Ü
131-11-3	Dimethylphthallate	+20	ij
203-95-3	Acenaphthylene	1 420	U
505-20-2	2,6-Dinitrotoldene	1 420	U.
99-09-2	15-Nigroaniline)	1000	Ü
33-32-9	Acendoninene		

FORM I SV-1.

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IC EFA SAMPLE NO

SEMIVOLATELE ORGANICS ANALYSIS DATA SHEET

HQ934 Contract 68D50011

Lab Code. IEANJ Case No 24569 SAS No _____ SDG No. HQ931

Matrix: (soil/water)Soil Lab Sample ID 61422008

Sample wt/vol. 30 (g/mL)g Lab File ID: <u>H2163</u>

Level. (low/med) LOW Date Received: 04/12/95

% Moisture. 21 decanted (Y/N)N Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed · 04/22/96

Injection Volume. 2 (uL) Dilution Factor: 1 0

GPC Cleanup: (Y/N) Y pH 8.22

Lab Name IEA-NJ

CAS NO. COMPOUND CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/kg Q

1	1 270		
51-28-5	2,4-Dinitrophenol	1000	J L
100-02-7	4-Nitrophenol	1300 i	ਰੂ ਜੀ ੋ
132-64-9	Dipenzofuran	420 1	<del></del>
121-14-2	12,4-Dinitrotoluene	-20	Ü
84-55-2	Diechvlonchalage	-20	<del>- U</del>
7005-72-3	4-Cnloropnenvl   Pnenvl Echer	420	· · · · · · · · · · · · · · · · · · ·
35-73-7	Fluorene	±20 I	Ü
100-01-6	4-Nicroaniline!	1000	U
534-52-1	4,5-Dinitro-2-Methylphenol	1000	Ü
85-30-5	N-Nitrosodionenviamine (1)	÷20	Ū I
101-55-3	4-Bromophenvl-Shenylether	≟20	<del>J</del>
118-74-1	Hexachloropenzene	420	J
37-86-5	Pencachiorophenol -	1000	Ü
35-01-3	Phenanthrene	420 [	Ü
120-12-7	Anchracede	-20	U I
85-74-3	Carpazole	÷20	<del>U</del>
34-74-2	Di-N-Bucyloninalace	± 420	Ü
205-44-0	Fluoranthene	-20	U I
129-00-0	Pyrene	≟20	Ū:
35-53-7	Butyloenzylonthalate	÷20	U I
91-94-1	3,3'-Dichloropenzidine	420 i	Ü ,
55-55-3	Benzo (A) Anthracene	÷20	: U !
215-01-9	Chrysene	-20 (	U II
117-31-7	Bis(2-Ethylnekyl)Phthalate	÷20	U I
117-84-0	Di-N-Octylphinalace	-20 i	U i
205-99-2	Benzo(B) Fluoranthene	±20 ¦	<del>U I</del>
207-03-9	Benzo(K) Fluoranthene	-20	Ü
50-32-3	( Benzo (A) Pyrene	-20	ا ت
193-39-5	! Indeno(1,2,3-Cd) Pyrene : !	÷20	U
33-70-3	Dipenz(A, H) Anthracene	-20	Ü
191-24-2	<u>  Benzo (G. H. I) Perviene</u>	÷20 I	IJ i

FORM I SV-2

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EPA SAMPLE NO.

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Lap Name IEA-NJ	Contract	<u> 53D50011</u>	=Q₹34 
Lab Code <u>IEANJ</u> Case No. 24569	SAS No	SDG No	<u>HQ931</u>
Macrix. (soil/water) Soil	•	Lab Sample ID	51422008
Sample wc/vol: 30 (g/ml)g		Lab File ID.	H2153
Level (low/med) LOW		Date Received	04/12/95
% Moisture 21 (Y/N	i) <u>N</u>	Date Extracted	1.04/17/96
Concentrated Extract Volume: 500	_(uL);	Date Analyzed	04/22/95
Injection Volume. 1. 2 (uL)	•	Dilution Facto	r: 1.0

рН:<u>3 22</u> -

Number TICs Found: 4

Y(\hat{\lambda}\rangle\).

GPC Cleanup:

CONCENTRATION UNITS. (ug/L or ug/Kg) ug/kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01.	Aldol Condensation Product	4 27	11000	jаз
02	Unknown .	3 84	1700	J3
03	Ūnknown .	5 07	1100	ا ت
04	Unknown	15 31	350	J
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FORM I SV-TIC

SEMEVOLATELE ORGANICS ANALYSIS DATA SHEET

Lab Name: IEA-NJ	Contract 63D52311	HQ935.
Lap Gode. <u>IEANJ</u> Čase No. <u>24569</u> S		<u>HQ931</u>
Matrix (soil/water) <u>Water</u>	·Lap Sample ID	51422009
Sample wc/vol. 1 1000 (g/mL) <u>rl</u>	Lap File ID	H2149
Level: (low/med) LOW	Date Received.	04/12/95
% Moiscure decanced (Y/N)	Date Extracted	04/16/95
Concentrated Extract Volume: 1000	(uL) Date Analyzed	04/19/95
Injection Volume: , 2 (uL)	Dilution Facto	or <u>1 0                                   </u>
GPC Cleanum (M/N)N m4		

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/l CAS NO COMPOUND

				===
103-95-2	Phenol	10	IJ	U5
111-44-4	Bis(2-Chloroschvl)Ether	10	ប	1100
95-57-8	2-Chlorophenol	10	Ū	1
541-73-1	11,3-Dichloropenzene	10	ប	1
105-45-7	1,4-Dichloropenzene	10	Ü	
95-50-1	1,1,2-Dichloropenzene	10 1	Ũ	1
95-43-7	2-Methylphenol	1 20 1	Ü	il .
103-50-1	2,2'-Oxypis(1-Chloropropane)	10	Ü	11
105-44-5	4-Mechylphenol	10 /	Ü	1
521-54-7	N-Nitrosodi-N-PropyLamine	101	Ü	1
57-72-1	Hexachioroethane	10	Ü	71
93-95-3	Nicrobenzene	1 10 1	ប	7[
78-59-1	: Isopnorone	101	U	1
33-75-5	, 2-Nitrophenol	10 /	Ü	]
105-57-9	2,4-Dimethylphanol	10 /	Ū	7
111-91-1	Bis(2-Chloroethoxy) Methane	1 10	Ü	]
120-33-2	2,4-Dichlorophenol	10	Ü	7
120-32-1	: 1,2,4-Trichloropenzene	10 1	J	ī · ·
91-20-3	Naphinalene	10	Ú	][
105-47-3	, =-Cnloroaniline	1 10 1	Ü	il .
37-53-3	Hexachioroputablene	10	Ü	]
59-50-7	4-Chloro-3-Methylphenol	10	JU T	· ·
91-57-6	2-Methylhaphthalene	1 101	Ü	1
77-47-4	Hexachlorocyclopentadiene	10 (	Ŭ.	105
33-05-2	2,4,6-Trichiorophenol	10	Ū	
95-95-4	2,4,5-Trichlorophenol	1 25 1	Ū	
91-58-7	) 2-Chloronaphthalene	1 10 1	Ü	1
33-74-4	2-Nicroaniline	25 1	Ű.	
131-11-3	Dimethylphthalate	1 101	Ŭ.	1
203-96-8	'Acenaphthylene	10	<u>U</u>	
605-20-2	+ 2,6-Dinitrotoluene	1 10 1	j	1
99-09-2	3-Nitpoaniline	ľ 25 l	J	1
83-32-9	<u> </u>	101	Ŭ.	1

FORM I SV-1

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## 10 . E SEMIVOLATILE ORGANICS ANALYSIS DATA SHEE

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Lab Name IEA-NJ	Contract: <u>68050011</u>
Lab Code· <u>IEANJ</u> Case No . <u>24559</u> S.	AS No SDG No · <u>HD931</u>
Matrix. (soil/water) Water	Lap Sample ID <u>61422009</u>
Sample wz/vol - 1000 (g/mL) <u>nl</u>	Lao File ID: <u>H2149</u>
Level· (low/med) LOW	Date Received 04/12/96
% Moisture! decanted (Y/N)	Date Extracted: 04/15/96
Concentrated Extract Volume 1000	(uL) Date Analyzed <u>04/13/95</u>
Injection Volume: 2 (uL)	Dilution Factor: 10
GPC Cleanup. (Y/N) N pH·	<u>-</u>

CAS NO. COMPOUND CONCENTRATION UNITS (ug/L or ug/Kg)uc/l

51-28-5 2,4-Dinitrophenol 25 Ũ UJ 100-02-7 4-Nicrophenol 25 Ü 132-54-9 Dibenzoluran 10 Ü 2,4-Dinitrocoluene 10 | Ũ 121-14-2 ! Diethvlohthalate 10 1 34-55-2 Ū | 4-Chlorophenyl-Phenyl Echer 7005-72-3 10 i Ũ <u>85-73-7</u> Fluorene 10 | 25 100-01-5 4-Nitroaniline 4,6-Dinitro-2-Methylpheno. 534-52-1 ΰ 35-30-5 10 N-Nicrosodiphenylamine (1) Ũ 101-55-3 4-Bromophenvl-Phenvletner 10 u 118-74-1 10 Ū Hexachloropenzene Pencachlorophenol Ū 37-85-5 72 10 85-01-8 Phenanthrene 120-12-7 10 Anthracene 86-74-3 Carbazole 10 Di-M-Bucylonenalate 34-74-2 10 205-44-0 Fluoranthene Pyrene 10 129-00-0 10 35-63-7 10 | Bucylpenzylphthalate | 3,3'-Dichloropenzidine 10 | 91-94-1 Ü 35-55-3 | Benzo(A) Anthracene 10 1 213-01-9 | Chrysene 10, 1 Ũ Bis(2-Ethylnexv1)Phinalate 117-31-7 201 Di-N-Octylphthalate 10 1 117-34-0 Ũ | Benzo(B)Fluoranthene 205-99-2 10 1 IJ 207-03-9 | Benzo(K) Fluoranthene 10 1 Ü | Benzo (A) Pyrane 10 | 50-32-3 ũ | Indeno(1,2,3-Cd)Pyrane 193-39-5 10 | ü 53-70-3 FDipenz (A, H) Anchracene 10 1 91-24-2 : Benzo(G, H, I) Perviene 10

FORM-I SV-2

75 cliz195

OLM03 0

. IF EPA SAMPLE SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

ΗQ	Э	3	õ

Lab Name IEA-NU !	Contract - 68D50011
Lap Code <u>IFANJ</u> Çase No · <u>24569</u>	SAS NoSDG No. HO931
Matrix (soil/water) Water	Lab Sample ID: <u>61422009</u>
Sample wi/vol: 1000 (g/mL) ml	Lab File ID: H2149
Level (low/red) LOW	Date Received: 04/12/96
% Moisture: decantéd: (Y/N)	Date Extracted: 04/15/95
Concentrated Extract Volume: 1000	(uL) Date Analyzed. 04/19/95
Injection Volume: 2. (uL)	Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH·	_

Number TICs Found 2

CONCENTRATION UNITS: (ug/L.or ug/Kg)ug/l

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	Unknown Alcohol	18 44	5	J J
02	Unknown Alcohol	16 50	2	Ĵ
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

	•	c in canal	HQ936
Lab Name <u>IEA-NJ</u>	Contract	<u> </u>	
Lap Code: IEANJ Case No	24559 SAS No _	5DG No	<u>HQ931</u> ·
Matrix (soil/water) Water		Lad Sample ID	61422011
Sample wt/vol 1000	_(g/TL) <u>Tl</u>	Lap File ID	H2150
Level (low/med) ! TOW		Date Received	04/12/96
% Moisture decan	ted (Y/N)	Dace Extracted	i <u>04/16/96</u>
Concentrated Extract Volum	e ·   <u>1000</u> (uL)	Date Analyzed	. 04/19/95
Injection Volume: , 2. (	u <u>L</u> )	Dilution Facto	or <u>10</u>
GPC Cleanup (Y/N) N	. Hg		
• • • • • •	;		
	i	•	
· .	CONCE	NTRATION UNITS:	•
CAS NO COMPOÚND	(ug/L	or ug/Kg) uc/l	Q

108-95-2	Paenol	. 10	، ا
111-44-4	Bis(2-Chloroethvl)Ether	10	<del>Ŭ</del>
95-57-3	2-Chlorophenol	10 1	<del></del>
541-73-1	1,3-Dichloropenzene	<u> </u>	<del>-</del>
105-45-7	11.4-Dichloropenzene	10	<del></del>
95-50-1	1,2-Dichloropenzene	10 1	
95-48-7	2-Methylphenol.	. 10 1	
103-50-1	2,2'-Oxypis(1-Cnioropropane)'	10 1	<del>- i  </del>
106-44-5	4-Mechylonenol:	10	U
521-54-7	N-Nicrosodi-N-Propylamine	101	· Ü
57-72-1	Hexachloroechane	10	<del>U</del>
98-95-3	Nicropenzene .	10 1	<del></del>
73-59-1	Isopharone	10	U I
38-75-5	2-Nitrophenoi	10 1	<del>'                                    </del>
105-67-9	2,4-Dimetrylphenol	10	- 0
111-91-1	Bis(2-Chloroethoxy) Methane	10 (	<del>U</del>
120-33-2	2,4-Dichlorophenol	10	Ü
120-82-1	1,2,4-Trichloropenzene	10	U I
91-20-3	Naphchalene	10	U
106-47-3	4-Chioroaniline	10 (	Ü
37-53-3	Hexachioroputaziene	10	Ü
59-50-7	4-Chloro-3-Methylphenol	10	Ü .
91-57-6	2-Methylnaphthalene	10	Ū į
77-47-4	Hexachiorocyclopentaciene	10	i i i
83-05-2	2,4,5-Trichlorophenol	10 (	. U. 1
95-95-4	12,4,5-Trichlorophenol	25 (	Ü
91-56-7	2-Chloronaphinalene	10 1	U i
33-74-4	2-Nitroaniline	25	. 0
131-11-3	Dimethylonthalate	19	Ū,
208-95-8	Acenaphanylene	10	Ü
505-20-2	2,6-Dinitrotoluene	10	Ü,
99-09-2	· 3-Nicroaniline)	. 25	<del>U</del>
33-32-9	- Adenaphinere	131	0

FORW I SV-1

OLM03 0

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	5 2 A 1 A 2 A 2 A 2 A 2 A 2 A 2 A 2 A 2 A	ALLE ORGA	NACO ANALI	isis vala sai	• =		
Lab Name: <u>IE</u>	A-NJ-		Contract	<u> 68050011 _</u>	. E	Q93 <i>6</i>	
Lab Code <u>IE</u>	ANJ Case No	<u>24569</u> 53	as No	SOG No	<u> </u>	<u>.</u>	
Matrix. (soi	1/water) Water			Lab Sample I	D· <u>514</u>	22011	
Sample wt/vo	1000	(c/mL)ml	•	Lap File ID.			
i,	· ·		-				
Level· (lo:	w/med): <u>LOW</u>			Dace Receive	c. <u>04/</u> 1	2/95	_
& Moiscure.	decant	ed. (Y/N)_		Date Extract	ed- <u>04/</u> 3	15/95	
Concentrated	Extract Volume	1000 (	(11년)	Date Analyze	d <u>04/1</u>	<u> 9/95</u>	<del></del>
Injection Vol	lume 2(u	<u>.</u> )		Dilution Fac	tor: <u>1</u>	0	_
GPC Cleanup	/ 3/ / 3T \ 37	рН	<i>.</i> •	•	-		
are eraming	(2/M) M-	DA					,
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			· concern	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	^		
CAS NO.	COMPOUND			TRATION UNIT: or ug/Kg) <u>ug/</u>		Q	
(=====================================		<u> </u>	(-5, -:-		,		_
		1	,		2-		حي ا
51-23-5 100-02-7	<u>  2,4-Dinitroph</u>   4-Nitrophenol		•		25   25	<u> </u>	11 (-)
132-64-9	Dibenzoruran	······································		Į	10	<del></del>	-{}
121-14-2	1 2,4-Dinitroto		······································	1	10	<del>-                                    </del>	4
34-55-2	I Distrylphonal			1	10	<del>- 0</del>	-il
7005-72-3	14-Cnioropheny		-022	<u>_</u>	10	<del>- </del>	4]
36-73-7	Fluorene	1-1:-:	-11	<u> </u>	1-0 1	<del>-                                    </del>	<del>i</del> l
100-01-5	4-Nitroanilin	<u> </u>		1	25	<del></del>	
534-52-1	14,6-Dinitro-2			<u>!</u>	25 1	<del></del>	-{
36-30-6	N-Nitrosodion				10	Ü	-
101-55-3	4-BromophenvI				10 1	<u>U</u>	-11
<u> </u>			<del>21</del>				4
113-74-1 187-86-5	Hexachioropen:				10 J. 25 J	U U	1
	Pentachloroph	51101		<del></del>			CZ
85-01-3 120-12-7	Phenanthrene	1			10	Ü	1
	Anchracene	<u> </u>			10	Ü	-1
36-74-3 34-74-2	Carbazole			<del>-</del> <del> </del>	10	<del>'''</del>	-11
206-44-0	Di-N-Butvione	<u>iaidus</u>		<u></u>	·		╣.
	Fluoranthene			· · · · · · · · · · · · · · · · · · ·	10	Ü	-19
	Pyrene				10		!
	Butvipenzviph:			1	10	Ü	<u>.</u> }
91-94-1	3,3'-Dichloro:				10	<del></del>	1
56-55-3   218-01-9	Senzo(A) Anthra	xC2:12			10	<u>.</u>	-
117-31-7	Chrysene	\ 3 <u>5555</u>		i	10 /	<u> </u>	4
	Bis(2-Ethylne)		3.5	1	10		1

FORM I SV-2

: Benzo(B) Fluoranthene

| Benzo(B) Fluoranthene | Benzo(K) Fluoranthene | Benzo(A) Pyrene | Indeno(1,2,3-Cd) Pyrene | Dipenz(A,H;Anchracene | Benzo(G H I) Perviene

TC 6(12/7)

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205-99-2

207-03-9

50-32-3

193-39-5

53-70-3

SEMIVOLATILE ORGANICS AMALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

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Lab Name <u>IEA-NJ  </u> Contra	act. <u>88050011</u>
Lab Code: <u>IEANJ</u> Case No <u>24569</u> SAS No.	SDG No. : <u>H0931</u>
Matrix (soil/water) <u>Water</u>	. Lap Sample ID <u>61422011</u>
Sample wc/vol. , <u>1000 (g/mL) ml</u> .	Lap File ID: H2150
Level. (low/med) <u>LOW</u>	Date Received: <u>04/12/95</u>
Moisture decanted (Y/N)	Date Extracted 04/16/96
Concentrated Extract Volume 1000 (uL)	Date Analyzed: 04/19/96
Injection Volume: 2 (uL)	Dilucion Factor: 1 0

pH:____

Number TICs Found! 7

GPC Cleanup: (Y/N) N -

CONCENTRATION UNITS. (ug/L or ug/Kg)ug/l

	,	T	1		7
CAS NUMBER	COMPOUND NAME	RT ·	EST	CONC	Q
01	Unknown Alcohol	18 44		8	J
02	ünknown	- 16 50	Ì	4	J
03	l Unknown	20.15		4	J
04.	Unknown Alcohol	13 16		4	J
05	Unknown Alcohol	19.35		3 [	ŭ
06	, Unknown	21 25		2	Ĵ
07 301020	Unknown amide	21 03		2	ĴΝ
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EPA SAMPLE NO . 15 · E SEMIVOLATILE ORGANICS ANALYSIS DATA SHEE

HQ938

Lab Name: IEA-NJ _____Contract. <u>88050011</u> Lab Code. <u>IEANJ</u> Case No. <u>24569</u> SAS No.. _____ SDG No <u>HQ931</u> . Lab Sample ID: <u>61422012</u> Matrix. (soil/water) Soil 30 · (g/mL) a Lab File ID <u>H2164</u> Sample wt/vol Level. (low/med) LOW - Date Received: <u>04/12/96</u> Date Extracted.04/17/96 % Moisture · 35 decanted. (Y/N) N-Concentrated Extract Volume: 500 . (uL) Date Analyzed 04/22/96_ Injection Volume: 2 (uL) Dilution Factor: 1 0

GPC Cleanup: (Y/N) Y '

CAS NO. COMPOUND

рн.<u>в 07</u>

CONCENTRATION UNITS: (ug/L or ug/Kg)<u>ug/kg</u>

UJ.

103-95-2				
95-57-8   2-Chlorophenol   510   U   541-73-1   1,3-Dichloropenzene   510   U   106-46-7   1,4-Dichloropenzene   510   U   195-50-1   1,2-Dichloropenzene   510   U   195-50-1   1,2-Dichloropenzene   510   U   103-60-1   2,27-Oxybis(1-Chloropropane)   510   U   103-60-1   2,27-Oxybis(1-Chloropropane)   510   U   106-44-5   4-Methylphenol   510   U   106-44-5   4-Methylphenol   510   U   106-44-5   4-Methylphenol   510   U   106-772-1   Hexachloropenane   510   U   107-72-1   Hexachloropenane   510   U   107-72-1   Hexachloropenane   510   U   107-72-1   Hexachloropenane   510   U   107-72-1   Hexachloropenane   510   U   105-67-9   2,4-Dimenvlopenol   510   U   105-67-9   2,4-Dimenvlopenol   510   U   111-91-1   31s(2-Chloropenol   510   U   111-91-1   31s(2-Chloropenol   510   U   1120-33-2   2,4-Dichloropenol   510   U   120-32-1   1,2,4-Trichloropenzene   510   U   106-47-3   4-Chloroanline   510   U   106-47-3   4-Chloroanline   510   U   105-67-6   2-Methylphenol   510   U   105-67-6   2-Methylphenol   510   U   105-67-6   2-Methylphenol   510   U   105-67-7   4-Chloro-3-Methylphenol   510   U   105-67-7   105-67-7   105-67-7   105-67-7   105-67-7   105-67-7   105-67-7   105-	108-95-2	Phenol	510	
95-57-8	111-44-4	Bis(2'-Chloroethv1)Ether	510	Ü
106-46-7	95-57-8		510	Ü
106-46-7	541-73-1	1,3-Dichloropenzene	510	Ū
95-48-7   2-Methylphenol   510   U   103-50-1   2,2'-Oxybis(1-Chioropropane)   510   U   106-44-5   4-Methylphenol   510   U   621-54-7   N-Nitrosodi-N-Propylamine   510   U   67-72-1   Hexachloroethane   510   U   67-72-1   Hexachloroethane   510   U   98-95-3   Nitropenzene   510   U   78-59-1   Isophorone   510   U   105-67-9   2,4-Dimethylphenol   510   U   105-67-9   2,4-Dimethylphenol   510   U   111-91-1   Bis(2-Chloroethoxy) Methane   510   U   120-33-2   2,4-Dimethylphenol   510   U   120-32-1   1,2,4-Trichlorophenol   510   U   106-47-3   4-Chlorophenol   510   U   106-47-3   4-Chlorophenol   510   U   106-47-3   4-Chlorophenol   510   U   17-63-3   Hexachlorophenol   510   U   17-67-6   2-Methylphenol   510   U   17-47-4   Hexachlorophenol   510   U   17-47-4   Hexachlorophenol   510   U   17-47-4   Hexachlorophenol   510   U   18-57-6   2-Methylphenol   510   U   18-57-6   2-Methylphenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7   2-Chlorophenol   510   U   18-57-7	105-45-7		510	Ü
103-60-1	95-50-1	1,2-Dichloropenzene	510	Ü
106-44-5	95-48-7	2-Mechylonenol	510	U
621-64-7   N-Nitrosodi-N-Propylamine   510   U     67-72-1   Hexachloroethane   510   U     98-95-3   Nitropenzene   510   U     78-59-1   Isophorone   510   U     105-67-9   2.4-Dimethylphenol   510   U     111-91-1   Bis (2-Chloroethoxy)   Methane   510   U     120-33-2   2.4-Dichlorophenol   510   U     120-33-2   2.4-Dichlorophenol   510   U     120-33-1   1.2,4-Trichlorobenzene   510   U     120-33-1   1.2,4-Trichlorobenzene   510   U     106-47-3   4-Chloroaniline   510   U     91-20-3   Naphthalene   510   U     91-57-6   2-Methylnaphthalene   510   U     97-63-3   Hexachlorobenzene   510   U     91-57-6   2-Methylnaphthalene   510   U     98-05-2   2.4,5-Trichlorophenol   510   U     98-95-4   2.4,5-Trichlorophenol   510   U     91-55-7   2-Chloronaphthalene   510   U     91-56-3   Acenaphthylnaphthalene   510   U     33-71-4   2-Nitroaniline   510   U     33-71-4   2-Nitroaniline   510   U     33-71-4   2-Nitroaniline   510   U     203-95-3   Acenaphthylnahalene   510   U     203-95-3   Acenaphthylnahalene   510   U     203-95-3   Acenaphthylnahalene   510   U     506-20-2   2,5-Dinitrotolylane   510   U     509-09-2   3-Nitroaniline   510   U	103-50-1	2,2'-Okvois(1-Chioropropane)	510	Ū
ST-63-3   Hexachloropthane   S10   U	106-44-5	4-Meanvionenoi	510	U I
S7-72-1   Hexachloroethane	621-64-7	N-Nitrosodi-N-Propylamine	510 (	Ü
78-59-1	67-72-1		510	Ü
38-75-5   2-Nitrophenol   510   U   105-87-9   2,4-Dimethylphenol   510   U   111-91-1   Bis (2-Chloroethoxy) Methane   510   U   120-33-2   2,4-Dichlorophenol   510   U   120-32-1   1,2,4-Trichlorobenzene   510   U   120-32-1   1,2,4-Trichlorobenzene   510   U   106-47-3   Naphthalene   510   U   106-47-3   4-Chloroaniline   510   U   106-47-3   4-Chloroaniline   510   U   107-63-3   Hexachloropitadiene   510   U   107-63-3   Hexachloropitadiene   510   U   107-47-4   Hexachloropitadiene   510   U   107-47-4   Hexachloropitadiene   510   U   107-47-4   Hexachloropitadiene   510   U   107-95-4   2,4,5-Trichlorophenol   510   U   107-95-4   2,4,5-Trichlorophenol   1300   U   107-95-7   2-Chloronaphthalene   510   U   107-95-7   2-Chloronaphthalene   510   U   107-95-8   Acenaphthylene   510   U   107-95-9   Acenaphthylene   510   U   107-95-9   Acenaphthylene   510   U   107-95-9   Acenaphthylene   510   U   107-95-9   Acenaphthylene   510   U   107-95-9   Acenaphthylene   510   U   107-95-9   Acenaphthylene   510   U   107-95-9   Acenaphthylene   510   U   107-95-9   3-Nitroaniline   510   U   107-95-9   3-Nitroaniline   510   U   107-95-9   3-Nitroaniline   510   U   107-95-9   3-Nitroaniline   510   U   107-95-9   3-Nitroaniline   510   U   107-95-9   3-Nitroaniline   510   U   107-95-9   107-95-9   107-95-9   107-95-9   107-95-9   107-95-9   107-95-9   107-95-9   107-95-9   107-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-9   107-95-95-95-9   107-95-95-95-9   107-95-95-95-9   107-95-95-95-95-9   107-95-95-95-9   107-95-95-95-95-9   107-95-95-95-95-95-95-95-95-95-95-95-95-95-	98-95-3	Nicropenzene	510	Ū
105-87-9	78-59-1	Isophorone	510	Ū I
105-87-9   2,4-Dimethylphenol   510   U   111-91-1   Bis(2-Chloroethoxy) Methane   510   U   120-83-2   2,4-Dichlorophenol   510   U   120-82-1   1,2,4-Trichlorobenzene   510   U   120-82-1   1,2,4-Trichlorobenzene   510   U   105-47-3   A-Chloroaniline   510   U   105-47-3   A-Chloroaniline   510   U   105-47-3   A-Chloroaniline   510   U   105-63-3   Hexachlorobultadiene   510   U   105-57-6   2-Methylphenol   510   U   105-57-6   2-Methylphenol   510   U   105-57-6   2-Methylphenol   510   U   105-95-4   2,4,5-Trichlorophenol   510   U   105-95-4   2,4,5-Trichlorophenol   1300   U   105-95-7   2-Chlorohaphthalene   510   U   105-95-7   2-Chlorohaphthalene   510   U   105-95-3   Acenaphthylphenol   510   U   105-95-3   Acenaphthylphenol   510   U   105-95-3   Acenaphthylphenol   510   U   105-95-3   Acenaphthylphenol   510   U   105-95-3   Acenaphthylphenol   510   U   105-95-3   Acenaphthylphenol   510   U   105-95-3   Acenaphthylphenol   510   U   105-95-3   Acenaphthylphenol   510   U   105-95-3   Acenaphthylphenol   510   U   105-95-3   Acenaphthylphenol   510   U   105-95-3   Acenaphthylphenol   510   U   105-95-3   Acenaphthylphenol   510   U   105-95-3   Acenaphthylphenol   510   U   105-95-3   Acenaphthylphenol   510   U   105-95-3   Acenaphthylphenol   510   U   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   105-95-3   10	88-75-5	2-Nicrophenol	1 510	Ü
111-91-1   Bis(2-Cnloroethoxy) Methane	105-57-9	2,4-Dimethylphenol	510	Ü
120-32-1	111-91-1		510	Ü
91-20-3   Naphthalene	120-33-2	12,4-Dichlorophenol -	510	
105-47-3	120-32-1	1,2,4-Trichlorobenzene		<del>U</del>
S7-63-3	91-20-3	Naphenalene	510	
59-50-7	105-47-3	4-Cnloroaniline	510	. U
91-57-5   2-Methylnaphthalene   510   U		Hexachlorobitadiene	510 /	- 11
77-47-4         Hexachiorocyclopentadiene       510   U         188-06-2         2,4,5-Trichlorophenol         510   U         95-95-4         2,4,5-Trichlorophenol         1300   U         91-53-7         2-Chioronaphthalene         510   U         38-74-4         2-Nicroaniline         1300   U         131-11-3         Dimethylphthalate         510   U         208-96-3         Acenaphthylene         510   U         606-20-2         2,6-Dimitroloquene         510   U         99-09-2         3-Nigroaniline         1300   U				- 12
38-06-2   2,4,6-Trichlorophenol   310   U     95-95-4   2,4,5-Trichlorophenol   1300   U     91-55-7   2-Chlorophenol   510   U	91-57-6	ı 2-Methyinaphthalene		
95-95-4       12,4,5-Trichlorophenol       1300   U         91-55-7       12-Chioropaphthalene       510   U         33-74-4       12-Nicroaniline       1300   U         131-11-3       Dimethylphthalate       510   U         203-95-3       Acenaphthylene       510   U         605-20-2       2,5-Dimitroloquene       510   U         99-09-2       3-Nigroaniline       1300   U	77-47-4	Hexachlorocyclopentaciene	510	Ü
91-56-7   2-Chloronaphthalene			·	, <del>U</del>
91-55-7   2-Chloronaphthalene		2,4,5-Trichiorophenol	1300	ប
131-11-3   Dimethylonthalate		2-Cnioronaphinalene		Ü
208-96-8   Acenaphthylene		12-Nicroaniline	1300 [	
506-20-2   2,6-Dinitrotoluene		Dimethylphthalate	510	Ü
99-09-2   3-Nigroaniline	L		,,	- 74
99-09-2   3-Nidroaniline		2,6-Dinitrololuene		Ü
33-32-9   Acenaonthena	99-09-2		1 . 1300 [	U
	33-32-9	Acegabathene	510!	Ü

FORM I SV-1

ÓLM03 0

HQ938

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET.

Lab Code <u>IFANJ</u> Case No. 24559 SAS No. _____ SDG No <u>HQ931</u>

Lab Sample ID: <u>61422012</u> Matrix (soil/water)Soil

Sample wt/vol : 30  $(g/\pi L)g$ Lab File ID· <u>H2164</u>

Level (low/med) LOW Date Received: 04/12/95

 $\frac{35}{100}$  decanted. (Y/N) N Date Extracted:04/17/96

Concentrated Extract Volume 500 (uL) Date Analyzed: 04/22/96

Injection Volume  $\frac{2}{2}$  (uL) , Dilution Factor: 1 0

GPC Cleanup: (Y/N)Y pH.8.07

CONCENTRATION UNITS (ug/L or ug/Kg) ug/kc Q CAS NO. COMPOUND

51-23-5				
100-02-7	51-23-5	2.4-Dinitrophenol	1300	יו ע
132-54-9   Dibenzofuran   510   U   121-14-2   2,4-Dinitrocoluene   510   U   121-14-2   2,4-Dinitrocoluene   510   U   121-14-2   Diethylphthalate   510   U   121-14-2   Diethylphthalate   510   U   121-14-2   Diethylphthalate   510   U   121-14-2   Diethylphthalate   510   U   121-14-2   Diethylphthalate   510   U   121-14-1   Diethylphthalate   1300   U   121-14-1   Diethylphthalate   1300   U   121-14-1   Diethylphthalate   1300   U   121-14-1   Diethylphthalate   1300   U   121-14-1   Diethylphthalate   510   U   121-14-1   Diethylphthalate   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300   U   1300	l'			
121-14-2	[			<del>U i</del>
84-65-2	<u></u>		j 510	Ū
7005-72-3	l*		510	<del>- 0  </del>
36-73-7			510 (	<u> </u>
100-01-6	35-73-7	Fluorene \	510	U
36-30-6	100-01-5		1 1300 (	Ū
101-55-3	534-52-1	4,6-Dinitro-2-Methylphenol	1300	Ū I
118-74-1	35-30-5	N-Nierosodionenvlamine (1) -	510	U
87-36-5	101-55-3	4-Bronoonenvl-Phenvlether	510	Ü
35-01-3	118-74-1	+ Hexacnloropenzene	510 1	Ü
120-12-7   Anthracene	87-86-5	Pentachlorophenol	1300	
35-74-8   Carbazole   510   U	35-01-3	Phenanchrene	72	J
34-74-2   D1-N-Bucyiphthalate				
206-44-0   Fluoranchene   510   U	35-74-8	! Carbazole	<u>`</u>	
129-00-0		Di-N-Bucylonchalace	510	
35-55-7		; Fluoranchene	1510	
91-94-1	·	Pyrene	,	- 11
56-55-3   Benzo(A) Anthracene   510   U		Butylpenzylphthalate	510 [	
		3,3'-Dichlorobenzidine		
1 218-01-9 1 Correspond		Benzo(A) Anthracene		
	213-01-9	Chrysene	510 [	Ü
117-81-7   Bis(2-Echylhexvi)Phinalate   510   U		: Bis(2-Echylhexyl)Phihalate	510 (	
117-84-0   Di-N-Occylononalace     510   U			1510 {	
205-99-2   Benzo(3) Fluoranthene   510   U	·			- 11
207-03-9   Benzo (K) Fluoranthene   510   U		! Benzo(K) Fluoranthene	510 (	
50-32-3   Benzo(A) Pyrene     510   U		,,		
193-39-5   Indeno(1,2,3-Cd) Pyrene   510   U				
53-70-3   Dipenz(A,H,Anthracene   510   U   -				
191-24-2	191-24-2	l Banzo(G, H I) Parviana	1 510 1	<u> </u>

FORM I SV-2

10 Glis 196

OLMO3 0

 	0.,0		
TENTATIV	ZELY IDE	NTIFIED COM	POUNDS

Lab Name · IEA-NJ	Contract	68050011	#Q933
Lap Code. <u>IEANJ</u> Case No .			<u> H0931</u>
Matrix (soil/water) Soil		Lao Sample ID	51422012
Sample wc/vol. 30	(g/mL)g	Lab File ID	<u>H2164</u>
Level: (low/med) LOW	<i>*</i> ,	Date Received:	04/12/95
* Moisture: 35 decante	ed: (Y/N) <u>N</u>	Date Extracted	:04/17/95
Concentrated Extract Volume.	500 (uL)	Date Analyzed.	04/22/95
Injection Volume: 2 (ul	.)	Dilution Facto	r: <u>1.0</u>
GPC Cleanup · (Y/N) Y	рН: <u>8.07</u>		-

Number TICs Found ! 6

CONCENTRATION UNITS: (ug/L or ug/Kg)ug/kg

	<u> </u>	l e			<del></del>
CAS NUMBER	COMPOUND NAME	RT	EST (	CONC.	Q
01.	Aldol Condensation Product	4 23	_	5300	JAB
02.	Unknown	3 32		990	JΒ
03	Unknown	5.07		540	J
04	Unknown -	23.27		420	Ţ
05	! Unknown	16 31		<del>1</del> 00	ű.
05	Unknown Acid	18 24		270	Ĵ
07	1				
08			***		
09.					*****
10					
11 -	,		•		
12					
13.			****		
14.					
15.					
16		1			
17	,	1			
13.					
19 20.					
20.		1			
21		\			
22		1			
23.		ł		1	
24.		i			
25					
25 ;		:			•
27		1		1	
28		1	***************************************	i	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
29.		1			
30 1		i	1	<u> </u>	••
		1			

### 1D PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA	SAMPLE	NO.
HQ9	31	

Lab File ID: <u>D43CLP98E_027</u> ~

<u>Cab</u>	Name:	IEA-NJ	: ·	Contract:	68D50011

Lab Code: <u>IEANJ</u> Case No.: <u>24569</u> SAS No.: _____ SDG No.: <u>HO931</u>

Matrix: (soil/water): WATER Lab Sample ID: 61422001

Sample wt/vol:  $970 \downarrow (g/ml) ml$ .

Moisture: ____ decanted: ___ Date Received: <u>04/12/95</u>

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 04/17/96

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/23/96

Injection Volume: | 1.0 (uL) Dilution Factor: 1.0

- - Sulfur Cleanup: Y GPC Cleanup: (Y/N) N pH:____

CAS NO. CONCENTRATION UNITS: Q COMPOUND

(ug/L or ug/Kg) <u>UG/L</u>

<b>,</b>	r		
319-84-6	alpha-BHC	0.05   0	7
319-85-7	Beta-BHC	0.05   ប៊	105
319-85-8	delta-BHC	· 0.05   U	7
58-89-9	gamma-BHC (Lindane)	0.05   0	71
76-44-8	Heptachlor	0.05   Ü	
309-00-2	Aldrin:	0.05 LU	1
1024-57-3	Heptachlor Epoxide	1. 0.05 <u>  Ŭ</u>	]
959-98-8	Endosulfan I	· 0.05   Ŭ	]
60-57-1	Dieldrin	0.10   U	
72-55-9	4,4'-DDE	0.10	]
72-20-8	Endrin:	0.10   Ü	$\mathbb{I}$
33213-65-9	Endosulfan II	[ 0.10   U	]
72-54-8	4,4'-DDD	0.10   U	
1031-07-8	Endosulian Sulfate	0.10 U	71
50-29-3	4,4'-DDT	0.10   0	]1/2
72-43-5	Mecnoxychlor	0.52 ] ប៊	]
53494-70-5	Endrin Ketone	-   0.10   U	][
7421-93-4	Endrin Aldehyde	0.10   U	]
5103-71-9	alpha-Chlordane	0.05 0	]
5103-74-2	gamma-Chlordane	0.05 0-	][
8001-35-2	Toxaphene	5.2   Ŭ	]]
12674-11-2	Aroclor-1016	1.0   U	
11104-28-2	Aroclor-1221	2.1   Ü	]}
11141-16-5	Aroclor-1232	1.0   0	]
53469-21-9	Aroclor-1242	1.0   0	1
12672-29-6	Aroclor-1248	1.0   U	]
11097-69-1	Aroclor-1254	1.0   Ŭ	]
11096-32-5	<u> Arocior-1260</u>	1070	]

FORM 1 PEST

OLM03.0

103/11/14

### PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. HQ932

Lab Name: <u>IËA-NJ</u> . Contract: <u>68D50011</u>

Lab Code: <u>IEANJ</u> Gase No.: <u>24569</u> SAS No.: _____ SDG No.: <u>HO931</u>

Matrix: (soil/water):SOIL_ Lab Sample ID: <u>61422004</u>

Sample wt/vol:  $30 \cdot (g/ml) \sigma$ 

Moisture: 24 decanted: N

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/17/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 04/22/96

Injection Volume: 1.0 (uL)

GPC Cleanup: (Y/N) Y

pH:<u>7.8</u>

Sulfur Cleanup: Y

CAS NO. COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>

Dilution Factor: 1.0

Lab File ID: D4BCLP883 014

Date Received: 04/12/96

319-84-6   alpna-BHC   2.2   U   319-35-7   3eta-BHC   2.2   U   U   319-35-7   3eta-BHC   2.2   U   U   58-39-9   garma-BHC (Lindane)   2.2   U   309-00-2   Aldrin   2.2   U   309-00-2   Aldrin   2.2   U   309-00-2   Aldrin   2.2   U   309-57-1   Dieldrin   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4   U   4.4	r				_
319-86-8   delta-BHC   2.2   U   58-39-9		alpna-BHC	2.2	ĪŪ	71
S8-39-9		Beca-BHC	2.2	U	705
76-44-8   Heptachlor					1
309-00-2   Aldrin   2.2   U   1024-57-3   Heptachlor Epoxide   2.2   U   959-99-8   Endosulfan I   2.2   U   10259-99-8   Endosulfan I   2.2   U   10259-99-8   Endosulfan I   2.2   U   10259-99-8   Endosulfan I   2.2   U   10259-99-99-99-99-99-99-99-99-99-99-99-99-9			2.2		11
1024-57-3   Heptachlor Epoxide   2.2   U   959-99-8   Endosulfan I   2.2   U					][
959-99-8       Endosulfan I       2.2       U         60-57-1       Dieldrin       4.4       U         72-55-9       4,4'-DDE       4.4       U         72-20-8       Endrin       4.4       U         33213-65-9       Endosulfan II       4.4       U         72-54-8       4,4'-DDD       4.4       U         1031-07-8       Endosulfan Sulface       4.4       U         50-29-3       4,4'-DDT       4.4       U         72-43-5       Methoxychlor       22       U         53494-70-5       Endrin Ketone       4.4       U         7421-93-4       Endrin Aldenvae       4.4       U         5103-71-9       alpha-Chlordane       2.2       U         5001-35-2       Toxapnene       2.2       U         3001-35-2       Toxapnene       220       U         12674-11-2       Aroclor-1015       44       U		Aldrin			11
50-57-1       Dieldrin       4.4       U         72-55-9       4,4'-DDE       4.4       U         72-20-8       Endrin       4.4       U         33213-65-9       Endosulfan II       4.4       U         72-54-8       4,4'-DDD       4.4       U         1031-07-8       Endosulfan Sulfate       4.4       U         50-29-3       4,4'-DDT       4.4       U         72-43-5       Methoxychlor       22       U         53494-70-5       Endrin Ketone       4.4       U         7421-93-4       Endrin Aldenyde       4.4       U         5103-71-9       alpha-Chlordane       2.2       U         5103-74-2       gamma-Chlordane       2.2       U         3001-35-2       Toxapnene       220       U         12674-11-2       Aroclor-1016       44       U		Heptachlor Epoxide	2.2	Ü	1
72-55-9       4,4'-DDE       4.4       U         72-20-3       Endrin       4.4       U         33213-65-9       Endosulfan II       4.4       U         72-54-8       4,4'-DDD       4.4       U         1031-07-8       Endosulfan Sulface       4.4       U         50-29-3       4,4'-DDT       4.4       U         72-43-5       Methoxychlor       22       U         53494-70-5       Endrin Ketone       4.4       U         7421-93-4       Endrin Aldenyde       4.4       U         5103-71-9       alpha-Chlordane       2.2       U         5103-74-2       gamma-Chlordane       2.2       U         3001-35-2       Toxapnene       220       U         12574-11-2       Aroclor-1015       44       U	959-99-8	Endosulfan I	2.2	l U	1)
72-20-8       Endrin       4.4       U         33213-65-9       Endosulfan II       4.4       U         72-54-8       4,4'-DDD       4.4       U         1031-07-8       Endosulfan Sulface       4.4       U         50-29-3       4,4'-DDT       4.4       U         72-43-5       Methoxychlor       22       U         53494-70-5       Endrin Ketone       4.4       U         7421-93-4       Endrin Aldenvde       4.4       U         5103-71-9       alpha-Chlordane       2.2       U         5103-74-2       I gamma-Chlordane       2.2       U         3001-35-2       Toxapnene       220       U         12574-11-2       Aroclor-1015       44       U	50-57-1	Dielarin	4.4	TU	1) .
33213-65-9   Endosulfan II   4.4   U			4.4	Ū	11
72-54-8   4,4'-DDD   4.4   U   1031-07-8   Endosulfan Sulface   4.4   U   50-29-3   4,4'-DDT   4.4   U   72-43-5   Methoxychlor   22   U   53494-70-5   Endrin Ketone   4.4   U   7421-93-4   Endrin Aldenyde   4.4   U   5103-71-9   alpha-Chlordane   2.2   U   5103-74-2   gamma-Chlordane   2.2   U   8001-35-2   Toxaphene   220   U   12574-11-2   Aroclor-1015   44   U	72-20-3	Bndrin	4.4	Ū	11
1031-07-8   Endosulfan Sulfate   4.4   U   50-29-3   4.4'-DDT   4.4   U   UT   72-43-5   Methoxychlor   22   U   53494-70-5   Endrin Ketone   4.4   U   7421-93-4   Endrin Aldenvde   4.4   U   5103-71-9   alpha-Chlordane   2.2   U   5103-74-2   gamma-Chlordane   2.2   U   8001-35-2   Toxaphene   220   U   12674-11-2   Aroclor-1016   44   U	33213-55-9	Endosulfan II	4.4	Į Ū	il
50-29-3         4,4'-DDT       4.4       U         72-43-5         Methoxychlor       22       U         53494-70-5         Endrin   Ketone       4.4       U         7421-93-4         Endrin   Aldenyde       4.4       U         5103-71-9         alpha-Chlordane       2.2       U         5103-74-2         gamma-Chlordane       2.2       U         3001-35-2         Toxapnene       220       U         12574-11-2         Aroclor-1015       44       U	72-54-8	4,4'-DDD	4.4	ΙŪ	11
72-43-5       Methoxychlor       22       U         53494-70-5       Endrin Ketone       4.4       U         7421-93-4       Endrin Aldenyde       4.4       U         5103-71-9       alpna-Chlordane       2.2       U         5103-74-2       gamma-Chlordane       2.2       U         3001-35-2       Toxapnene       220       U         12574-11-2       Aroclor-1015       44       U	1031-07-8	Endosulfan Sulface	4.4	ΙÜ	11
53494-70-5   Endrin Ketone       4.4   U         7421-93-4   Endrin Aldenyde       4.4   U         5103-71-9   alpha-Chlordane       2.2   U         5103-74-2   gamma-Chlordane       2.2   U         3001-35-2   Toxaphene       220   U         12574-11-2   Aroclor-1015       44   U		4,4'-DDT -		ΙŪ	UT
7421-93-4       Endrin Aldenyde       4.4       U         5103-71-9         alpha-Chlordane       2.2       U         5103-74-2         gamma-Chlordane       2.2       U         3001-35-2         Toxapnene       220       U         12574-11-2         Aroclor-1015       44       U			22		
5103-71-9   alpha-Chlordane       2.2   U         5103-74-2   gamma-Chlordane       2.2   U         8001-35-2   Toxaphene       220   U         12374-11-2   Aroclor-1015       44   U					
5103-74-2   gamma-Chlordane       2.2   U         8001-35-2   Toxagnene       220   U         12574-11-2   Aroclor-1015       44   U		Endrin, Aldehyde	4.4	1.0	
3001-35-2   Toxaphene 220 U 12574-11-2   Aroclor-1015 44 U					il .
12674-11-2   Aroclor-1016 44 U	<b>.</b>	gamma-Chlordane			
			220		
11104-28-2   Aroclor-1221   88   U				Ū	
		Aroclor-1221	88		
11141-15-5   Aroclor-1232   44   U					
53469-21-9   Aroclor-1242 44   U			1:2	ا ن ا	
12672-29-6   Aroclor-1248   44   10					
11097-69-1   Aroclor-1254   44   U			1 11		
11096-32-5   Arocior-1260   44   U	1 11096-32-5 !	Aroclor-1260	44	ij	

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# PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA	SAMPLE	NO.
H09	33	

Lab Name: <u>IEA-NJ   Cont</u>	ract: <u>58D50011</u>
Lab Code: <u>IFANJ</u> Case No.: <u>24569</u> SAS No	: SDG No.: <u>HO931</u> -
Matrix: (soil/water): WATER	Lab Sample ID: <u>61422007</u>
Sample wc/vol: 970   (g/ml) ml	Lab File ID: D43CLP88E 023
Moisture: decanted:	Date Received: <u>04/12/96</u>
Extraction: (SepF/Cont/Sonc) SEPF	Date Extracted: 04/17/96
Concentrated Extract Volume: 10000 (uL)	Date Analyzed: 04/23/96
Injection Volume: 1.0 (uL)	Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH:	Sulfur Cleanup: Y
CAS NO. COMPOUND	CONCENTRATION UNITS: Q

319-84-6   alpha-BHC	<del></del>		
319-36-8   Gelta-BHC		alpha-BHC	
S8-89-9		Beta-BHC	
76-44-8	319-86-8	delta-BHC	· -  - 0.05 ( U
309-00-2   Aldrin:	58-89-9	gamma-BHC (Lindane)	
1024-57-3   Heptachlor Epoxide	75-44-8	Heptachlor	0.05   U
959-98-8   Endosulfan I	309-00-2	Aldrin;	0.05 [U_
S0-57-1   Dieldrin		Heptachlor Epoxide	0.05   0
72-55-9		Endosulfan I	0.05   0
72-20-8   Endrin	50-57-1	Dieldrin	0.10   0
33213-65-9   Endosulfan II		14,4'-DDE	0.10 U
72-54-8		Endrin	
1031-07-8   Endosulfan Sulfate   0.10   U		Endosulfan II	
10   10   10   10   10   10   10   10			0.10   U
		Endosulfan Sulfate	0.10   U
53494-70-5   Endrin Ketone		14,4'-DDT	0.10   U
7421-93-4       Endrin Aldenvde       0.10   U         5103-71-9       alpha-Chlordane       0.05   U         5103-74-2       gamma-Chlordane       0.05   U         8001-35-2       Toxaphene       5.2   U         12674-11-2       Aroclor-1016       1.0   U         11104-28-2       Aroclor-1221       2.1   U         11141-16-5       Aroclor-1232       1.0   U         53459-21-9       Aroclor-1242       1.0   U         12572-29-5       Aroclor-1248       1.0   U         11097-69-1       Aroclor-1254       1.0   U			
S103-71-9   alpha-Chlordane   0.05   U			
5103-74-2   gamma-Chlordane   0.05   U		Endrin Aldehyde	
3001-35-2   Toxaphene			
12674-11-2   Aroclor-1016		· · · · · · · · · · · · · · · · · · ·	
11104-28-2   Aroclor-1221			
11141-16-5   Aroclor-1232			
53459-21-9   Aroclor-1242   1.0   U   12572-29-5   Aroclor-1248   1.0   U   11097-59-1   Aroclor-1254   1.0   U   v			·
12672-29-6 Aroclor-1248 1.0 U 11097-69-1 Aroclor-1254 1.0 U 1			
11097-69-1   Aroclor-1254   1.0   U   ·			
11096-82-5   Aroclor-1260   1 0   U			
	11095-32-5	Aroclor-1260	1 0 I U

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### ! 1D PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA	SAME	LE	NO.
			~ [
HQ9	34	<u>.</u>	

Lab Name: TEA-NJ - Contract: 68D50011

Lab Code: <u>IEANJ</u> Case No.: <u>24569</u> SAS No.: _____ - SDG No.: <u>HO931</u>

Matrix: (soil/water): SOIL Lab Sample ID: 61422008

Sample wt/vol: 30 (g/ml) g Lab File ID: D4BCLP88E 021

Moisture: 21 decanted: N Date Received: 04/12/96

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/17/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 04/23/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)Y pH:8.2 Sulfur Cleanup: Y

CAS NO. COMPOUND CONCENTRATION UNITS: Q (ug/L or ug/Kg) UG/KG

	<u> </u>				
319-84-6	alpna-BHC	•	2.1	U	7
319-85-7	Beta-BHC		2.1	10	1 UT
319-86-8	delta-BHC   -	-	2.1	U	7)
58-89-9	gamma-BHC (Lindane)		2.1	U	11
76-44-8	Heptachlor		2.1	10	11.
309-00-2	Aldrin;		2.1	U	] -
1024-57-3	Heptachlor Epoxide		2.1	[ U	][
959-98-8	Endosulfan I	•	2.1	I U	11
60-57-1	Dieldrin		4.2	U	11
72-55-9	4,4'-DDE -		4.2	U	]]
72-20-8	Endrin;		4.2	U	}}
33213-65-9	Endosulfan II	-	4.2	U	1)
72-54-8	4,4'-DDD		4.2	Ū	11
1031-07-8	Endosulfan Sulfate	*	4.2	U	]]
50-29-3	4,4'-DDT		4.2	Ü	5
72 - 43 - 5	Methoxychlor		21	Ū	
53494-70-5	Endrin Ketone		4.2	ΙÜ	
7421-93-4	Endrin Aldenyde		4.2	10	
5103-71-9	alpha-Chlordane		2.1	Ü	
5103-74-2	gamma-Chlordane	;	2.1	Ü	
8001-35-2	Toxaphene		210	Ū	
12674-11-2	Aroclor-1016		42	l Ü	
11104-28-2	Aroclor-1221		84	U	
11141-16-5	Aroclor-1232		42	ĪŪ	
53469-21-9	Aroclor-1242		42	ΙÜ	ŀ
12672-29-6	Aroclor-1248		42	I.U	
11097-69-1	Aroclor-1254		42	Ü	
11096-82-5	Aroclor-1260		42	<u> </u>	

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22	SAMPLE	NO.		
HQ9	35			
	,			

Lab Name: IBA-NJ Contr	act: <u>68D50011</u>
Lab Code: <u>IEANJ</u> Case No.: <u>24559</u> SAS No.:	SDG No.: <u>H0931</u>
Matrix: (soil/water): WATER	Lab Sample ID: <u>61422009</u>
Sample wt/vol: 970 (g/ml) ml	Lab File ID: D4BCLP88E_024
Moiscure: decanted:	Date Received: 04/12/95
Extraction: (SepF/Cont/Sonc) SEPF	Date Extracted: 04/17/96
Concentrated Excract Volume: 10000 (uL)	Date Analyzed: 04/23/95
Injection Volume:   1.0 (uL)	Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH:	Sulfur Cleanup: Y_
<u>.</u>	

CAS NO.	COMPOUND	CONCENTRATION U (ug/L or ug/Kg)	
319-84-6	. alpha-BHC		0.05 [ 0.
319-85-7	Beta-BHC		0.05 U
319 86-8	delta-BHC	•	0.05   U
58-89-9	gamma-BHC (Li	ndane)	0.05   U

319-84-6	alpha-BHC	0.05 <u>  Ŭ.</u>   U	7
319-85-7	Beta-BHC	0.05   0	i
319 86-8	delta-BHC	0.05   U	Ì
58-89-9	gamma-BHC (Lindane)	0.05 U	1
76-44-8	Heptachlor	0.05   U	
309-00-2	Aldrin	0.05   U	
1024-57-3	Heptachlor Epoxide	0.05 Ŭ	
959-98-3	Endosulfan I	0.05   Ū	
60-57-1	Dieldrin	0.10   U	1
72-55-9	4,4'-DDE	0.10   U	
72-20-8	Endrin	0.10 U	ļ
33213-65-9	Endosulfan II	0.10 [ 0	
72-54-8	4,4'-DDD }	0.10   U	
1031-07-8	Endosulfan Sulfate	0.10 0	
50-29-3	4,4'-DDT	0.10 U	ł
72-43-5	Methoxychlor	0.52   U	
53494-70-5	Endrin Ketone	0.10 0	
7421-93-4	Endrin Aldehyde	0.10   0	
5103-71-9	alpha-Chlordane	0.05 U	
5103-74-2	gamma-Chlordane	0.05 [ U	:
3001-35-2	Toxaphene	5.2   U	
12574-11-2	Aroclor-1016	1.0   0	
11104-28-2	Aroclor-1221	2.1   U	
11141-16-5	Aroclor-1232	1.0   0	
53469-21-9		1.0 (0	ĺ
	Aroclor-1248	1.0   1	
	Aroclor-1254	1.0 [ 0	]
11095-32-5	Aroclor-1260	10 [0]	ż

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### 1D PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. HQ936

Lab Name: <u>IEA-NJ </u>	_ Contract: <u>63D50011</u>
Lab Code: <u>IEANJ</u> Case No.: <u>24569</u>	SAS No.: SDG No.: <u>H0931</u>
Macrix. (soil/water): WATER	Lab Sample ID: 61422011
Sample wt/vol: 970 : (g/ml) ml	Lab File ID: D43CLP88E_025
Moisture: decanted:	Date Received: <u>04/12/95</u>
Extraction: (SepF/Cont/Sonc) SEPF	Date Extracted: <u>04/17/96</u>
Concentrated Extract Volume: 10000	(uL) Date Analyzed: 04/23/95
Injection Volume: 1.0 (uL)	Dilution Factor: 1.0
GPC Cleanup: (Y/N)N pH:	Sulfur Cleanup: Y
CAS NO. COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/Kg) <u>UG/L</u>

319-84-5	alpha-BHC	0.05   U	
319-85-7	Beta-BHC   -	0.05   U	UT
319-85-9	delca-BHC	0.05   0	
58-89-9	gamma-BHC (Lindane)	0.05   0	
75-44-8	Reptachlor	0.05   0	
309-00-2	Aldrin	0.05 j U	
1024-57-3	Heptachlor Epoxide	0.05 ( V	
959-98-8	Endosulfan I	0.05   0	
60-57-1	Dieldrin	0.10 U	
72-55-9	4,4'-DDE	0.10 U	
72-20-3	Endrin	0.10 0	
33213-65-9	Endosulfan II	0.10   U	
72-54-8	4,4'-DDD	0.10   U	
1031-07-8	Endosulfan Sulface	0.10   0	
50-29-3	4,4'-DDT	0.10   U	سدر
72-43-5	Methoxychlor	0.52   U	
53494-70-5	Endrin Ketone	0.10 ( U	
7421-93-4	Endrin Aldehyde	0.10 U	
5103-71-9	alpha-Chlordane	0.05   U	
5103-74-2	gamma-Chlordane	0.05   0	
8001-35-2	Toxaphene	5.2   0	
12674-11-2	Aroclor-1016	1.0   U	
11104-28-2	Aroclor-1221	2.1   0	
11141-16-5	Aroclor-1232	1.0   0	
53469-21-9	Aroclor-1242	1.0   U	
12572-29-5	Aroclor-1248	1.0 I <u>U</u>	
11097-59-1	Aroclor-1254	1.0 0	
11095-32-5	Aroclor-1260	100	

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### D PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA	SAMPLE	NO.
∺Q9	38	

Lab Name: IEA-NJ 6 d Contract: 68D50011

Lab Code: <u>IEANJ</u> . Case No.: <u>24569</u> SAS No.: _____ SDG No.: <u>HO931</u>

Matrix: (soil/water):SOIL Lab Sample ID: 61422012

Moisture: 35 decanted: N

Lab File ID: D4BCLP83E 022

Sample wt/vol: 30 (g/ml) g Lab File ID: D430

Date Received: <u>04/12/96</u>

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/17/96

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 04/23/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y - pH:8.1 Sulfur Cleanup: Y

CAS NO. COMPOUND CONCENTRATION UNITS: Q (ug/L or ug/Kg) UG/KG

ر بر براد الماد الماد الماد الماد الماد الماد الماد الماد الماد الماد الماد الماد الماد الماد الماد الماد الم	<u> </u>					<b></b>
319-84-5	alpha-BHC		-	2.5	T U	ור
319-85-7	Beta-BHC		_	2.5	Į Ü	102
319-35-8	delta-BHC	<b>.</b>		2.0	J	]
58-89-9	gamma-BHC (Lindane)			2.6	U	]
76-44-8	Heptachlor			2.5	Ü	] -
309-00-2	Aldrin			1.7	IJ	]
1024-57-3	Heptachlor Epoxide			2.6	Į Ū	
959-98-8	Endosulfan I	. <del>.</del> .		2.6	U	]
60-57-1	Dieldrin			5.1	ŢÜ	]] .
72-55-9	4,4'-DDE			5.1	Ü	]
72-20-8	Endrin		-	5.1	-U	]
33213-65-9	Endosulfan II			5.1	U	}
72-54-8	4,4'-DDD		1	5.1	{ U	}}
1031-07-8	Endosulfan Sulface			5.1	U	]
50-29-3	4,4'-DDT			5.1	ΙÜ	102
72 - 43 - 5	Methoxychlor			26	U	]
53494-70-5	Endrin Ketone	•	<u>  .                                   </u>	5.1_	} Ŭ	][
7421-93-4	Endrin Aldenyde			5.1_	ĮÜ	]
5103-71-9	alona-Chlordane			2.6_	ĮŪ	11
5103-74-2	gamma-Chlordane			- 2.5	1 U	1
8001-35-2	Toxaphene			260	Ü	]
12674-11-2	Aroclor-1015			51	} Ü	] -
11104-28-2	Aroclor-1221			100	ΙÜ	]
11141-16-5	Aroclor-1232			51	Ū	JJ
53469-21-9	Aroclor-1242			51	ΙÜ	<u> </u>
12672-29-6	Aroclor-1243			51	Ü, İ	
11097-59-1	Aroclor-1254			รี1	Į Ū	]]
11095-32-5	Aroclor-1260			51	U	]]

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## HYDROLOGIC LABORATORIES, INC

## Sample Cross Reference Table

Company Name: URS Consultants

HydroLogic Login Number: L2695

HydroLogic Sample Number	Client Sample Identification	Sample Date/Time					
L2695-1	DC-SW-5	09 Apr 96 12:35					
L2695-2	DC-SW-4	09 Apr 96 12:35					
L2695-3	DC-SW-3	09 Apr 96 13:20					
L2695-4	DC-SW-1 MS/MSD	09 Apr 96 16:45					
L2695-5	DC-SW-3	09 Apr 96 13:20					
L2695-6	DC-SW-4	09 Apr 96 12:35					
L2695-7	DC-SW-2	09 Apr 96 14:00 -					
L2695-8	DC-SW-1	09 Apr 96 16:45					
L2695-9 ,	DC-SW-5	09 Apr 96 12:35					
L2695-10	DC-SW-1	09 Apr 96 16:45					
L2695-11	DC-SW-2	09 Apr 96 14:00					
L2695-12	DC-SW-1 MS/MSD	09 Apr 96 16:45					
L2695-13	LC-SW-1	10 Apr 96 11:00					
L2695-14	LC-SW-1	10 Apr 96 11:00					
L2695-15	DL-SW-1 MS/MSD ·	10 Apr 96 10:20					
L2695-16	DL-SW-3	09 Apr 96 17:20					
L2695-17	DL-SW-1	10 Apr 96 10:20					
L2695-18	DL-SW-1	10 Apr 96 10:20					
L2695-19	DL-SW-1	"10 Apr 96 10:20"					
L2695-20	DL-SW-4	09 Apr 96 16:45					
L2695-21	DL-SW-2	09 Apr 96 18:20					
L2695-22	DL-SW-4	09 Apr 96 16:45					
L2695-23	DL-SW-3	09 Apr 96 17:20					
L2695-24	DL-SW-2	09 Apr 96 18:20					
L2695-25 '	DL-SW-S	09 Apr 96 16:45					
L2695-26	DL-SW-5	09 Apr 96 16:45					

## DATE AND TIME SUMMARY

Company Name: URS Consultants Project: DURANGO CU

HydroLogic Login Number: L2695

METHOD	COLLECTED	PREPARED	ANALY	ZED	
SAMPLE NUMBER: L2695-1	CLIENT ID: E	C-SW-5	* *	MATRIX: Aqueous	
MCAWW, 130 2	04/09/96 12:35	04/16/96	04/16/96	10.17	
SAMPLE NUMBER: L2695-2	CLIENT ID:	C-SW-4		MATRIX: Aqueous	
MCAWW, 130 2	04/09/96 12:35	04/16/96	04/16/96	10.17	
SAMPLE NUMBER: L2695-3	CLIENT ID: E	OC-SW-3	٠ ,	MATRIX: Aqueous	* **
MCAWW, 130.2	04/09/96 13 20	04/16/96	04/16/96	10 17	
SAMPLE NUMBER: 12695-4	CLIENT ID: D	C-SW-I MS/MSD	1	MATRIX: Aqueous	
MCAWW, 415 1	04/09/96 16 45	04/16/96	04/16/96	09·25	
SAMPLE NUMBER: L2695-5	CLIENT ID: D	C-SW-3	÷	MATRIX: Aqueous	
MCAWW, 415 1	04/09/96 13 20	04/16/96	04/16/96	09 25	
SAMPLE NUMBER: L2695-6	CLIENT ID: D	C-SW-4	4	MATRIX: Aqueous	
MCAWW, 415 T	04/09/96 12:35	04/16/96	04/16/96	09 25	
SAMPLE NUMBER: L2695-7	CLIENT ID: D	C-SW-2	* *	MATRIX: Aqueous	
MCAWW, 415 I	04/09/96 14 00	04/16/96	04/16/96	09.25	
SAMPLE NUMBER: L2695-8	* CLIENT ID: D	C-SW-1		MATRIX: Aqueous	
MCAWW, 415 1	04/09/96 16.45	04/16/96	04/16/96	09 25	
SAMPLE NUMBER: L2695-9	CLIENT ID: D	C-SW-5	•	MATRIX: Aqueous	
MCAWW, 415 1	04/09/96 12:35	04/16/96	04/16/96	09 25	
SAMPLE NUMBER: L2695-10	CLIENT ID: D	C-SW-1		MATRIX: Aqueous	
MCAWW, 130 2	04/09/96 16:45	04/16/96	04/16/96	10 17	
SAMPLE NUMBER: L2695-11	CLIENT ID: D	C-SW-2	3	MATRIX: Aqueous	
MCAWW, 130 2	04/09/96 14:00	04/16/96	04/16/96	10 17	Andrew Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the
_ +					

Page 1

## DATE AND TIME SUMMARY

Company Name: URS Consultants Project: DURANGO CU

HydroLogic Login Number: L2695

METHOD	COLLECTED	PREPARED	ANALY	ZED
SAMPLE NUMBER: L2695-12	CLIENT ID: D	C-SW-1 MS/MSD	• ,	MATRIX: Aqueous
MCAWW, 130.2	04/09/96 16 45	04/16/96	04/16/96	10 17
SAMPLE NUMBER: L2695-13.	· CLIENT ID: L	.c-sw-i	•	MATRIX: Aqueous
MCAWW, 415.1	04/10/96 11 00	04/16/96	04/16/96	09 25
SAMPLE NUMBER: 1.2695-14	CLIENT ID: L	.C-\$W-1		MATRIX: Aqueous
MCAWW, 130 2	04/10/96 11 00	04/16/96	04/16/96	10:17
SAMPLE NUMBER: L2695-15	CLIENT ID: D	il-sw-1 ms/msd	**	MATRIX: Aqueous .
MCAWW, 130.2	04/10/96 10:20	04/16/96	04/16/96	10 17
SAMPLE NUMBER: L2695-16	CLIENT ID: D	L-SW-3		MATRIX: Aqueous
MCAWW, 130 2	04/09/96 17 20	04/16/96	04/16/96	10 17
SAMPLE NUMBER: L2695-17	CLIENT ID; D	L-SW-L	<b>-</b> , ,	.MATRIX: Aqueous
MCAWW, 415.1	04/10/96 10.20	04/16/96	04/16/96	09·25
SAMPLE NUMBER: L2695-18	CLIENT ID: D	L-SW-I	, ,	MATRIX: Aqueous
MCAWW, 130.2	04/10/96 10:20	04/16/96	04/16/96	10 17
SAMPLE NUMBER: L2695-19	- CLIENT ID: D	L-SW-1	- e	MATRIX: Aqueous
MCAWW, 415 1	04/10/96 10:20	04/16/96	04/16/96	09 25
SAMPLE NUMBER: 12695-20	CLIENT ID: D	L-SW-4		MATRIX: Aqueous
MCAWW, 130.2	04/09/96 16 45	04/16/96	04/16/96	10:17
SAMPLE NUMBER: L2695-21	CLIENT ID: D	L-SW-2		MATRIX: Aqueous
MCAWW, 130.2	04/09/96 18.20	04/16/96	04/16/96	10·17
SAMPLE NUMBER: L2695-22	CLIENT ID: D	L-SW-4	2 ×	MATRIX: Aqueous
MCAWW, 415.1	04/09/96 16 45	04/16/96	04/16/96	09 25
SAMPLE NUMBER: L2695-23	CLIENT ID: D	L-SW-3		MATRIX: Aqueous

## : DATE AND TIME SUMMARY

Company Name: URS Consultants Project: DURANGO CU

HydroLogic Login Number: L2695

METHOD	COLLECTED	PREPARED	ANALYZED
MCAWW, 415.1	04/09/96 17.20	04/16/96	04/16/96 09 25
SAMPLE NUMBER: L2695-24	CLIENT ID: E	DL-SW-2	MATRIX: Aqueous
MCAWW, 415 1	04/09/96 18:20	04/16/96	04/16/96 09 25
SAMPLE NUMBER: L2695-25	CLIENT ID: 1	L-SW-5	MATRIX: Aqueous
MCAWW, 415 1	04/09/96 16 45	04/16/96	04/16/96 09 25
SAMPLE NUMBER: L2695-26	CLIENT ID: D	L-SW-5	MATRIX: Aqueous
MCAWW, 130.2	04/09/96 16 45	04/16/96	04/16/96 10:17

FINAL RESULTS

Client ID:

DL-SW-1 MS/MSD

Project Number:

**DURANGO CU** 

Sample 10:

L2695-15

Site / Project ID:

Not Reported R3540

Run ID:

Collection Date:

10-APR-96

Received Date:

12-APR-96 .

Report Date:

17-APR-96

Analyte

MCAWW, Method 130.2 Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6208

Hardness

N/A

CAS No.

Dit

157-

Sample Conc.

mg/L

Units

Qual

1.7

MDL

2

Review By: Bob Cathel

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit

MDL

⁻ J = Estimated Concentration, B = Analyte Detected in the Blank

⁻ E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution Factor .

⁻ Sample Concentration Not Detected above MDL ND

⁻ Method Detection Limit

RL - Method Reporting Limit

Client ID:

DL-SW-1

Project Number: DURANGO CU

Sample ID.

L2695-18

Site / Project ID: Not Reported

Run 10:

Oil

R3540

Collection Date:

10-APR-96

Received Date:

12-APR-96

Report Date:

17-APR-96

Analyce

MCAWW, Method 130.2 Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6208

Hardness

N/A

Sample Conc.

Units

MOL

RL

CAS No.

159 - 1

mg/L

2

Review By: Bob Cathel

Report Approved By: Ty Garber

· U = Analyte Not Detected above the Method Detection Limit Qual

- J = Estimated Concentration, B = Analyte Detected in the Blank

- E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution Factor ND - Sample Concentration Not Detected above MDL

- Method Detection Limit

- Method Reporting Limit

MDL

' Client 10:

Run ID:

DL-SW-1

Project Number:

DURANGO CU

Sample (D:

L2695-17

Site / Project ID:

Not Reported

R3539

Collection Date:

10-APR-96

Received Date:

12-APR-96

Report Date:

17-APR-96

Analyte

CAS No. Ori

Sample Conc.

Units

Qual

MCAWW, Method 415 1

Analysis Date: 16-APR-96 09-25

Workgroup Number: WG6204

Total Organic Carbon

N/A

2

mg/L

MDL

Review By. Bob Cathel

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit

- J = Estimated Concentration, B = Analyte Detected in the Blank

E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution Factor

NO - Sample Concentration Not Detected above MDL

MOL - Method Detection Limit

- Method Reporting Limit

> Client ID: DL-SW-1

DURANGO CU Project Number:

> Sample ID: L2695-19

Site / Project ID: Not Reported

Dil

Run ID: R3539

Collection Date: 10-APR-96 Received Date:

12-APR-96

Report Date:

17-APR-96

Sample Conc.

MCAWN, Method 415.1

Analyte

Analysis Date: 16-APR-96 09:25

Workgroup Number: WG6204

Total Organic Carbon

N/A

CAS No.

2.8

mg/L

Units

Qual

. 15

RL

MDL

Review By: Bob Cathel

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit

- J = Estimated Concentration, 8 = Analyte Detected in the Blank

- E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution Factor

- Sample Concentration Not Detected above MDL ND

MDL - Method Detection Limit

- Method Reporting Limit

> Client ID: LC-SW-1

Project Number: DURANGO CU

> Sample ID: L2695-14

Site / Project ID: Not Reported

> Run 10: R3540

Collection Date: 10-APR-96

Received Date: 12-APR-96

17-APR-96 . Report Date:

Analyte -	CAS No.	Dil Sample Conc.	Units Qua	at MOL '	RL
		-			
MCAWN, Method 130.2	1				

Analysis Date: 1	6-APR-96 16	0:17					,	
Workgroup Number:	WG6208	1		-	1		٤٠	
Hardness	•	1	N/A	1	241	mg/L	1.7	2

Review By: Bob Cathel

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit - J = Estimated Concentration, B = Analyte Detected in the Blank - E = Analyte Conc. is above the Method Calibration Range - Sample Dilution Factor Dil - Sample Concentration Not Detected above MDL ND MDL - Method Detection Limit · Method Reporting Limit

Client [D: LC-SW-1

Project Number: DURANGO" CU

> Sample ID: L2695-13

Site / Project ID: Not Reported

> R3539 Run ID.

Collection Date: 10-APR-96

Received Date: 12-APR-96

Report Date

17-APR-96

CAS No. Sample Conc. Units Qual HDL

MCAWW, Method 415.1

Analyte

Analysis Date: 16-APR-96 09:25

Workgroup Number: WG6204

Total Organic Carbon

N/A

2.5

mg/L

.15

Report Approved By: Ty Garber

Review By: Bob Cathel

- U = Analyte Not Detected above the Method Detection Limit

- J = Estimated Concentration, B = Analyte Detected in the Blank

- E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution Factor

ND - Sample Concentration Not Detected above MDL

MDL - Method Detection Limit .

- Method Reporting Limit

Client ID: DL-SW-2

Project Number

DURANGO CU .

Sample ID: L2695-21 *

Site / Project ID: Not Reported

Run 10: R3540

Collection Date: 09-APR-96

Received Date: 12-APR-96

Report Date: 17-APR-96

Analyte	CAS No.	Dit	Sample Conc.	Units	Qual	MDL	RL
			•	_			•
MCAWW, Method 130.2							
Analysis Date: 16-APR-96 10:17							,
Workgroup Number: WG6208							*
Hardness	N/A	1	184	mg/L		1.7	` 2
			•				

Review By. Bob Cathel

Report Approved By: Ty Garber

• U = Analyte Not Detected above the Method Detection Limit - J = Estimated Concentration, B = Analyte Detected in the Blank - E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution Factor

ND - Sample Concentration Not Detected above MDL

MOL - Method Detection Limit - Method Reporting Limit . RL

Client ID:

DL-SW-2

Project Number:

DURANGO CU

Sample 10:

L2695-24

Site / Project ID:

CAS No

Not Reported R3539

Run ID: Collection Date:

09-APR-96

Received Date:

12-APR-96

Report Date:

17-APR-96

Sample Conc.

Analyte

Units

MOL

MCAWW, Method 415.1

Analysis Date: 16-APR-96 09:25

Workgroup Number: WG6204

Total Organic Carbon

N/A

Dil

2 .

mg/L

.15

Review By: Bob Cathel

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit

- J = Estimated Concentration, B = Analyte Detected in the Blank

- E = Analyte Conc. is above the Method Calibration Range

- Sample Dilution Factor

- Sample Concentration Not Detected above MDL ND

MOL - Method Detection Limit RL

- Method Reporting Limit

Oit

Form 1 - Data Summary Report

Preparéd By: HydroLogic Laboratories, Inc.

Ctient ID:

DL-SW-3

Project Number:

Sample 10:

DURANGO CU L2695-16

Site / Project ID:

Not Reported

Run 10:

R3540

Collection Date

09-APR-96

Received Date:

12-APR-96

Report Date.

17-APR-96

Analyte

CAS No. Dit Sample Conc.

Units

Qual

RL

MCAWW, Method 130.2

Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6208

Hardness

N/A

186

mg/L

1.7

MDE-

2

ì

. Method Reporting Limit

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit - J = Estimated Concentration, 8 = Analyte Detected in the Blank - E = Analyte Conc. is above the Method Calibration Range Dil - Sample Dilution Factor - Sample Concentration Not Detected above MDL ND MOL - Method Detection Limit

RL

Review By: Bob Cathel

Cirent ID: 1

DL-SW-3

Project Number: DURANGO CU

Dit

Sample ID:

L2695-23

Site / Project ID:

CAS No.

Not Reported

Run ID:

R3539 .

Collection Date:

09-APR-96

Received Date:

12-APR-96

Sample Conc.

Units

Qual

MDL

Report Date:

17-APR-96

MCAWW, Method 415.1			•	•	
Analysis Date: 16-APR-96 09:25					
Workgroup Number: WG6204				1	
Total Organic Carbon	N/A	1	1.7 mg/L	.15	1

Review By: Bob Cathel

Dit

Analyte

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit
- J = Estimated Concentration, 8 = Analyte Detected in the Blank
- E = Analyte Conc. is above the Method Calibration Range

- Sample Dilution Factor

ND - Sample Concentration Not Detected above MDL

MDL - Method Detection Limit
RL - Method Reporting Limit

> Client 10. DL-SW-4

Project Number: DURANGO CU

Sample ID

L2695-20

Site / Project ID. Not Reported

Dil

Run 10: R3540

Collection Date:

09-APR-96 12-APR-96

Sample Conc.

Received Date:

Report Date:

17-APR-96

MCAWW, Method 130.2

Analyte

Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6208

Hardness

N/A

CAS No.

192

mg/L

Units

Qual

1.7

MOL

RL

Report Approved By: Ty Garber

Review By: Bob Cathel

Qual

Dil

MOL

• U = Analyte Not Detected above the Method Detection Limit

- J = Estimated Concentration, 8 = Analyte Detected in the Blank

- E = Analyte Conc. is above the Method Calibration Range

- Sample Dilution Factor

- Sample Concentration Not Detected above MDL ND

- Method Detection Limit

- Method Reporting Limit

l form 1 - Cata Summary Report

Prepared By: HydroLogic Laboratories, Inc.

Client ID: DL-SW-4

Project Number: DURANGO CU

Sample 10: L2695-22 .

Site / Project ID: Not Reported:

Run (D: R3539

Collection Date: 09-APR-96

Received Date: 12-APR-96

Report Date: 17-APR-96

Analyte	1	CAS No.	Dil	Sample Conc.	Units	Qual	MDL	RL
	- •			*				
MCAWW, Method 415.1	1							
Analysis Date: 16-APR-96	09:25							
Workgroup Number: WG6204	:							
Total Organic Carbon		N/A	1	2	:ng/L		.15	1

Review By- Bob Cathel

Report Approved By: Ty Garber

Oual - U = Analyte Not Detected above the Method Detection Limit
- J = Estimated Concentration, 8 = Analyte Detected in the Blank
- E = Analyte Conc. is above the Method Calibration Range
Dil - Sample Dilution Factor
- Sample Concentration Not Detected above MDL
- Method Detection Limit
RL - Method Reporting Limit

Client ID:

DL-SW-5

Project Number: DURANGO CU

Sample ID:

L2695-25

Site / Project ID:

Not Reported

R3539 Run ID:

Collection Date.

09-APR-96

Received Date:

12-APR-96

Report Date:

17-APR-96

Analyte

CAS No.

Oil

Sample Conc.

Units

Qual

MCAWW, Method 415.1

Analysis Date: 16-APR-96 09:25

Workgroup Number: WG6204

Total Organic Carbon

N/A

3.8

mg/L

.15

Review By: Bob Cathel

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit

⁻ J = Estimated Concentration, 8 = Analyte Detected in the Blank

⁻ E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution Factor

[·] Sample Concentration Not Detected above MDL ND

MDL - Method Detection Limit

⁻ Method Reporting Limit RL

Client (D:

DL-SW-5

Project Number

DURANGO CU

Sample ID:

L2695-26

Site / Project 10:

Not Reported

Rum ID:

R3540

Collection Date:

09-APR-96

Received Date:

12-APR-96

Report Date:

17-APR-96

Analyte

CAS No.

Sample Conc.

Units

Qual

MDL

RL

HCAWW, Method 130.2

Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6208

Hardness

N/A

1

Oil

188

mg/L

1.7

2

Review By: Bob Cathel

Report Approved By: Ty Garber

Qual - • U = Analyte Not Detected above the Method Detection Limit

- J = Estimated Concentration, B = Analyte Detected in the Blank

- E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution Factor

ND · Sample Concentration Not Detected above MDL

MDL - Method Detection Limit

RL - Method Reporting Limit

QC DATA PACKAGE

CAS No.

Client ID: Method Blank

Project Number: Not Reported

Sample ID: WG6208-1

Site / Project ID: Not Reported

Run ID: R3540

Collection Date: Not Reported

Received Date: 16-APR-96.

Report Date: 17-APR-96

Dil

						0.00	
MCAWN, Hethod 130.2		•	4				
Analysis Date: 16-APR-96	10:17			. "		* *,	
Workgroup Number: WG6208	! -						
Hardness	¥	N/A	1	ND mg/L	U	1.7	2

Sample Conc.

Units

Quat

MDE

RL

Review By: Bob Cathel

Analyte

Report Approved By: Ty Garber

ual - U = Analyte Not Detected above the Method Detection Limit

⁻ J = Estimated Concentration, B = Analyte Detected in the Blank

⁻ E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution Factor

ND - Sample Concentration Not Detected above MDL

MDL - Method Detection Limit

RL - Method Reporting Limit

Client ID:

Method Blank

Project Number:

Not Reported

Sample (D:

WG6211-1

Site / Project ID:

N/A

Not Reported

Run 10:

Dit

R3540 Collection Date:

Not Reported

Received Date:

16-APR-96

Report Date:

17-APR-96 "

Standard Method 314A Analysis Date: 16-APR-96 10:17 Workgroup Number: WG6211 Kardness

Analyte

CAS No.

Sample Conc.

Units

Qual

RŁ

2

Review By: Bob Cathel

Report Approved By: Ty Garber

- U = Analyte Not Detected above the Method Detection Limit Qual

- J = Estimated Concentration, B = Analyte Detected in the Blank

- E = Analyte Conc. is above the Method Calibration Range

Dit - Sample Dilution Factor

ND - Sample Concentration Not Detected above MDL

MOL - Method Detection Limit

RL - Method Reporting Limit

Client ID:

Run 1D:

Method Blank

Project Number:

Not Reported

Sample ID:

WG6204-1 Not Reported

Site / Project ID:

R3539

Collection Date:

Not Reported

Received Date:

16-APR-96

Report Date:

17-APR-96

Analyte

CAS No.

Dil

Sample Conc.

Units

MOL

RL

MCAWW, Method 415.1

Analysis Date: 16-APR-96 09:25

Workgroup Number: WG6204

Total Organic Carbon

N/A

1

ng/L

ŭ

Qual

. 15

• !

Review By: Bob Cathel

Report Approved By: Ty Garber

Qual - U = Analyte Not Detected above the Method Detection Limit

⁻ J = Estimated Concentration, 8 = Analyte Detected in the Blank

⁻ E = Analyte Conc. is above the Method Calibration Range

Dil - Sample Dilution Factor

ND - Sample Concentration Not Detected above MDL

MDL - Method Detection Limit

RL - Method Reporting Limit

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report Prepared By: HydroLogic Laboratories, Inc.

Sample Id: LCS/LCSD Pair Work Group Id: WG6208-2 Run Ld: R3540

GALP Record Id: Not Reported Preparation Date: 16-APR-96 Analysis Date: 16-APR-96

Report Date: 17-APR-96

Analyte	LAS NO.	FOM FIMIT	High Limit	RPD LIMIT	LCS Add	LCSD Add	Units	LCS XREC	LCSD XREC	LCS/LCSD RPD	QUAL (1)	
MCAWW, Method 130.2 Analysis Date: 16-APR-96 10:17 Workgroup Number: WG6208			•					,				
Kardness	N/A	<b>8</b> 0	120	50	- 311	311	mg/L	97	91	6	***	

Note: Technical Review By: Bob Cathel Note: Report Approved By: Ty Garber

(1) QUAL
- * = LCS Outside Control Limits; # = LCSO Outside Control Limits; 0 = RPD Outside Control Limits; '-' = Value Within Control Limits
"Limits" - The "Limits" reported above (Low, Nigh and RPD) are in units of percent (%).
"LCS_SD_Add" - The conc. of analyte added to the LCS or LCSD sample.

"LCS XREC" - Laboratory Control Sample Percent Recovery

"LCSD XREC" -- Laboratory Control Sample Duplicate Percent Recovery

"LCS/LCSD RPD" - Laboratory Control Sample / Laboratory Control Sample Duplicate Relative Percent Difference

Not Reported

Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report
Prepared By: Hydrologic Laboratories, Inc.

Sample Id: LCS/LCSD Pair Work Group Id: WG6211-2 Run Id: R3540 GALP Record Id: Not Reported Preparation Date: 16-APR-96 Analysis Date: 16-APR-96 Report Date: 17-APR-96

Analyte CAS No. Low Limit High Limit - RPD Limit LCS Add LCSD Add Units LCS XREC LCSO XREC LC\$/LCSD RPO QUAL (1) Standard Method 314A Analysis Date: 16-APR-96 10:17 ' Workgroup Number: WG6211 | Herdness N/A 311 311 120 20

> Note: .Technical Review By: Bob Cathel

Note: Report Approved By: Ty Garber

## Laboratory Control Spike / Laboratory Control Spike Duplicate QC Report Prepared By: HydroLogic Laboratories, Inc.

Sample Id: LCS/LCSD Pair
Work Group Id: MG6204-2
Run Id: R3539
GALP Record Id: Not Reported
Preparation Date: 16-APR-96
Analysis Date: 16-APR-96

17-APR-96

Report Date:

Analyte	CAS No.	LOW Limit	Kigh Limit	RPD Limit	LCS Add	LCSO Add	Units	LCS XREC	LCSD %REC	LCS/LCSD RPD	QUAL (1)
					7.0						
MCAWN, Method 415.1											
Analysis Date: 16-APR-96 09:25	i		•								
Workgroup Number: WG6204											
Total Organic Carbon	N/A	80	120	20	43.2	43.2	mq/L	99	99	0	

Hote: Technical Review By: Bob Cathel Note:

Report Approved By: Ty Garber

#### Matrix Spike / Matrix Spike Duplicate QC Report Prepared By: HydroLogic Laboratories, Inc.

Client Id: Not Reported
Work Group Id: WG6204-5
Run Id: R3539
GALP Record Id: Not Reported

Sample Conc

MS XREC

MSD XREC

MS/MSD RPD

QUAL (1)

GALP Record 1d: Not Report Preparation Date: 16-APR-96 Analysis Date: 16-APR-96 Report Date: 17-APR-96

1		**************************************									*************				
MCANN, Method 415.1 Analysis Date: 16-APR-96 09:25			•									•			
Workgroup Number: WG6204 Total Organic Carbon	N/A	75	125	20	16	16 *	mġ/L `	2.2	100		101	1	<del>-</del>		

CAS No. Low Limit High Limit RPD Limit MS Add MSD Add Units

Note: Technical Review By: Bob Cathel Note: Report Approved By: Ty Garber

(1) QUAL * * = MS Outside Control Limits; # = MSD Outside Control Limits; @ = RPD Outside Control Limits; '-' = Value Within Control Limits -! = The sample concentration is greater than two times the MS or MSD spike conc. High analyte conc. will effect the MS/MSD recoveries. (1) QUAL "Limits" The "Limits" reported above (Low, High and RPD) are in units of percent (%). "MS, MSD Add" - The conc. of analyte added to the MS or MSD sample (soil results are corrected for % moisture). "Sample Conc" - The units are the same as those reported on the Form 1 Data Summary Report (soil results are corrected for % moisture). "MS XREC" - Matrix Spike Percent Recovery "MSD XREC" - Matrix Spike Duplicate Percent Recovery "MS/MSD RPD" - Matrix Spike / Matrix Spike Duplicate Relative Percent Difference NR - Not Reported ND - Analyte "Not Detected" above the method detection limit.

Analyte

Replicate Sample QC Report Prepared By: HydroLogic Laboratories, Inc.

₩G6208-4 Work Group Id:

Run 1d:

R3540

GALP Record Id: Not Reported Preparation Date: 16-APR-96

Analysis Date: Report Date:

16-APR-96 17-APR-96

CAS No. Sample Conc REP Conc RPD Analyte Units

MCAWN, Method 130.2

Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6208

Hardness -- - -

N/A

186

Note:

Technical Review By: Bob Cathel

Note:

Report Approved By: Ty Garber

Note

- Only analytes with concentrations above the method detection limit are reported above. Samples will be reported above without any analyte concentrations. For these samples, analytes were not detected in the sample or in the sample replicate.

"Sample Conc"

- The sample concentration.

"REP Conc"

- The replicate sample concentration.

"RPD"

- Relative percent difference

"GR"

- Not Detected

#### Replicate Sample QC Report Prepared By: HydroLogic Laboratories, Inc.

WG6208-5 Work Group Id: R3540 Run 1d: GALP Record Id: Not Reported 16-APR-96 Preparation Date:

16-APR-96 Analysis Date: 17-APR-96 Report Date:

Analyte CAS No. Sample Conc REP Conc RPD Units

MCAWN, Method 130.2

Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6208

157 N/A 165 mg/L Hardness

> Note: Technical Review By: Bob Cathel

Note:

Report Approved By: Ty Garber

Note - Only analytes with concentrations above the method detection limit are reported above. Samples will be reported above without any analyte concentrations. For these samples, analytes were not detected in the sample or in the sample replicate.

"Sample Conc" - The sample concentration.

"REP Conc" - The replicate sample concentration.

"RPD"

- Relative percent difference

יי סאיי · Not Detected

## Replicate Sample OC Report Prepared By: HydroLogic Laboratories, Inc.

Work Group Id: WG6211-4
Run Id: R3540
GALP Record Id: Not Reported

Preparation Date: 16-APR-96 Analysis Date: 16-APR-96 Report Date: 17-APR-96

Analyte CAS No. Sample Conc REP Conc Units RPD .

Standard Method 314A

Analysis Date: 16-APR-96 10:17

Workgroup Number: WG6211

Hardness N/A 186 190 mg/L 2

Note: Technical Review By: Bob Cathel Note:

Report Approved By: Ty Garber

Note

 Only analytes with concentrations above the method detection limit are reported above. Samples will be reported above without any analyte concentrations. For these samples, analytes were not detected in the sample or in the sample replicate.

"Sample Conc"

- The sample concentration.

"REP Conc"

- The replicate sample concentration.

"RPD"

- Relative percent difference

ייסאיי

· Not Detected

Replicate Sample QC Report Prepared By: HydroLogic Laboratories, Inc.

WG6204-4 Work Group 1d:

Run 1d:

R3539

GALP Record 1d:

Not Reported

Preparation Date:

16-APR-96

Analysis Date:

16-APR-96

Report Date:

17-APR-96 Sample Conc

Analyte	.,,	
MCAWW, Method 4' Analysis Date:	15.1 16-APR-96	09:25

Workgroup Number: WG6204

Total Organic Carbon

N/A

CAS No.

2.2

REP Conc

mg/L

- RPD

10

Units

Note: Technical Review By: Bob Cathel Note:

Report Approved By: Ty Garber

Note

- Only analytes with concentrations above the method detection limit are reported above. Samples will be reported above without any analyte concentrations. For these samples, analytes were not detected in the sample or in the sample replicate.

"Sample Conc"

- The sample concentration.

"REP Conc"

- The replicate sample concentration.

"RPD"

"NO"

- Relative percent difference

- Not Detected

## APPENDIX B

Photolog

# Color Photo(s)

The following pages contain color that does not appear in the scanned images.

To view the actual images, please contact the Superfund Records Center at (303) 312-6473.

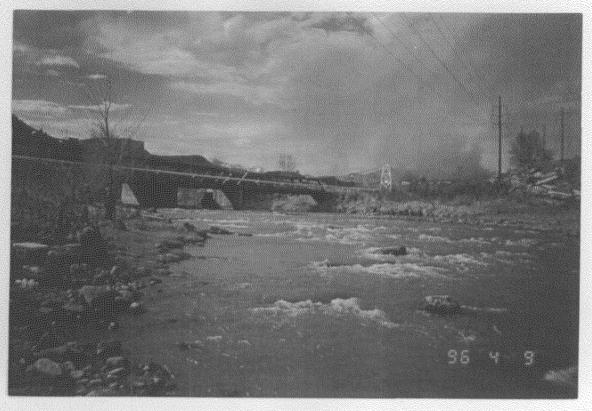


PHOTO 1
Looking upstream on the Animas River at Durango Lead Smelter sample location DL-SW/SE-4 (and DL-SW-5 duplicate). Note Santa Rita Bridge in background.

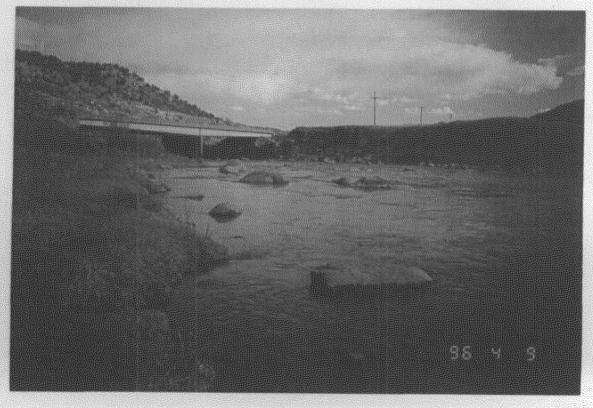


PHOTO 2

Photo of sample location DL-SW/SE-3 with the Santa Rita Bridge (Highway 550/160) in the background. Samples were collected at the west edge of Durango City Park (Gateway Park).

75-60201.00 \START\Durango\Final-Pb.ARR\Photolog:rsb

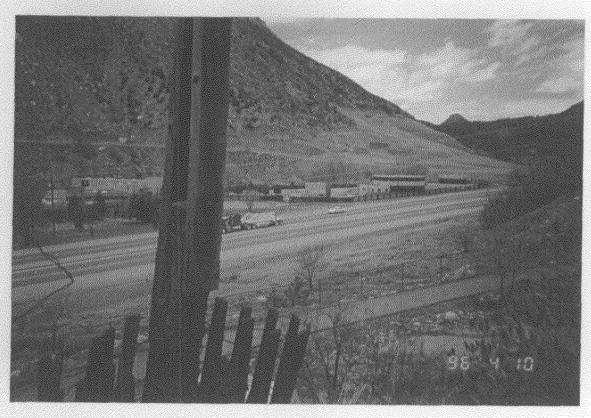


PHOTO 7

Photo taken from soil sample location DL-SO-2 facing the Durango Lead Smelter site beyond the waste treatment plant. Sample location at Trailer #8 at the trailer park.



PHOTO 8

Photo taken from the location of soil sample DL-SO-3 facing the Durango Lead Smelter site across the Animas River.

75-60201.00 \START\Durango\Final-Pb.ARR\Photolog:rsb



PHOTO 5

Photo of the location of sample LC-SW/SE-1 collected on the east bank of Lightner Creek upstream of the confluence with the Animas River. The bridge carries Highway 160 over Lightner Creek.



РНОТО 6

View of the Potter residence from the location of soil sample DL-SO-1.

75-60201.00 \START\Durango\Final-Pb.ARR\Photolog:rsb



PHOTO 3

Photo of M. Rudolph (UOS) collecting PPE sample (DL-SW/SE-2) at the location of the former lead smelter on the west bank of the Animas River.

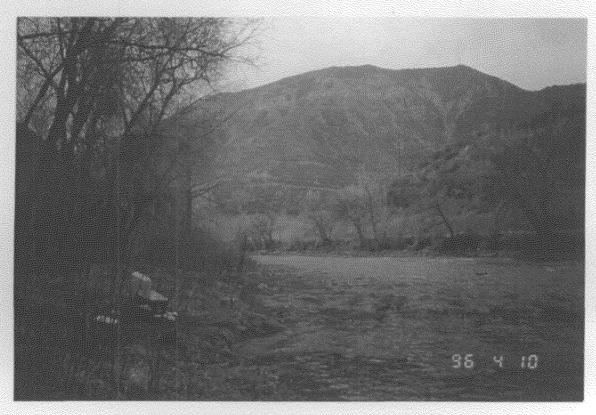


PHOTO 4

Photo taken facing south of sample location DL-SW/SE-1.

Roosa Avenue is in the right frame; Red Lion Inn is in left frame.

75-60201.00 \START\Durango\Final-Pb.ARR\Photolog:rsb

# APPENDIX C

Site Inspection Data Summary

# TABLE AIR-1: SUMMARY OF ANALYTICAL RESULTS FOR AIR PATHWAY

SAMPLE ID A DATE	SAMPLE TYPE	DISTANCE FROM SITE (MILES)	TAHGET(S) WITHIN DISTANCE CATEGORY	HAZARDOUS SUBSTANCE	CONCENTRATION (SPECIFY UNITS)	DETECTION LIMIT	PEFERENCES
			☐ Number of people ☐ Name of sens, environment	,			
			☐ Wotland acreage	•			
			Number of people     Name of sons, environment	, ·			,
			☐ Welfand ecreage		(		,
		,	☐ Number of people ☐ Name of sens, environment				٠
			☐ Wedand acreage				
,			☐ Number of people ☐ Name of sens. environment				
			☐ Wetland acreage ☐ Number of people ☐ Name of sens. environment				
			☐ Wotland screage	•			
		·	☐ Number of people ☐ Name of sens. environment				
			☐ Wetland acreage				
		,	☐ Number of people ☐ Name of sens, environment			•	
			☐ Weitand acreage		1		

Q1	Data	Summar	٠.
31		Juilliai.	Ŧ

Site	Name	DL

AIR	INE	OPI	A A "	TIO.	N
$\Delta$	114	Unii			

Is air contamination present at the site     Yes □ No □ Uncertain but likely 図     □ Additional sampling required     Is analytical evidence available? □ Yes	Uncertain but not likely
2. Is air contamination attributable to the □ Yes □ No □ Additional sampling req	site? uired NA
substances released from the site? ☐ Yes ☐ No ☐ Uncertain but likely ☒ ☐ Additional sampling required	Uncertain but not likely  Reference(s) 1/05 19966
4. Evidence of blogas release from any of  Below-ground containers or tanks  Reference(s)	the following source types at the site: NA Landfill   Buried surface impoundment
5.* Particulate migration potential factor va	lue: (HRS Figure 6-2)
6.* Particulate mobility factor value:	(HRS Figure 6-3)
7. Distance from any incompletely contain area: 0,25 miles Reference(s)  8. Population within 4 miles of site source	
DISTANCE FROM SITE SOURCES	POPULATION
0 (within site sources)	0
1/4 mile or less	1,036
>1/4 to 1/2 mile	1.036
>1/2 to 1 mile	2.071
>1 to 2 miles	4.143
>2 to 3 miles	4, 143
>3 to 4 miles	0
Reference(s) USDOC 19	90
Resources within ½ mile of site sources     □ Commercial agriculture     □ Commercial silviculture     ☒ Major or designated recreation area     ☐ None of the above	s (HRS Section 6.3.3):
Reference(s) CDOW 1990	

^.	A-4-	Summary
• 1	1)812	Summary
~ .		

Site Name	DU

10. Sensitive environments and wetlands within 4 miles of the site.

NAME/DESCRIPTION/LOCATION OF SENSITIVE ENVIRONMENT OR WETLAND	DISTANCE FROM SITE (MILES)	TYPE OF SENSITIVE ENVIRONMENT	WETLAND SIZE (ACRES)	
NWI maps not availa	ble			
, , , , , , , , , , , , , , , , , , ,		-		

Reference(s)	· · · · · · · · · · · · · · · · · · ·
rielelelice(3)	

11. Using Table Air-1, summarize air analytical results for all sampling investigations. Include and identify background sample results.

TABLE SE-1: ANALYTICAL RESULTS FOR SOIL EXPOSURE PATHWAY

ROTER TO ARR TABLE 6

SAMPLE ID & DATE	SAMPLE DEPTH	TYPE OF PROPERTY	POPULATION	HAZARDOUS SUBSTANCE	CONCENTRATION (SPECIFY UNITS)	DETECTION LIMIT	REFERENCES
		☐ Residence ☐ School ☐ Daycare center ☐ Werkplace	·				
n .		☐ Residence ☐ School ☐ Daycare center ☐ Workptace					
		☐ Residence ☐ School ☐ Daycare center ☐ Workplace				τ.	
		☐ Residence ☐ School ☐ Daycare center ☐ Workplace	· · ·				
		☐ Residence ☐ School ☐ Daycare center ☐ Workplace					
		☐ Residence ☐ School ☐ Daycare center ☐ Workelace				·	-
	•	☐ Residence ☐ School ☐ Daycare conter ☐ Werkplace					
·		☐ Residence ☐ School ☐ Daycare center ☐ Workplace			;		

<u>-</u>

TABLE SE-2: ANALYTICAL RESULTS FOR SOIL EXPOSURE PATHWAY

PEFER TO
ARR
TABLE 455

SAMPLE ID & DATE	SAMPLE DEPTH	TYPE OF TARGET	HAZARDOUS SUBSTANCE	CONCENTRATION (SPECIFY UNITS)	DETECTION LIMIT	REFERENCES
		☐ Terrostrial sensitive environment.				
		☐ Resources* ☐ Commercial agriculture ☐ Commercial silviculture ☐ Commercial livestock production or grazing				
		☐ Terrestrial sensitive onvironment				
	· · ·	☐ Resources* ☐ Commercial agriculture ☐ Commercial silviculture ☐ Commercial livestock production or grazing				
		C) Terrestrial sensitive environment				
		☐ Resources* ☐ Commercial agriculture ☐ Commercial silviculture ☐ Commercial livestock ☐ production or grazing				
		☐ Terrestrial sensitive environment				
		☐ Resources* ☐ Commercial agriculture ☐ Commercial silviculture ☐ Commercial livestock production or grazing				

SAMPLE ID	SAMPLE TYPE	SAMPLE OBJECTIVE	TARGET NAME	HAZARDOUS SUBSTANCE	CONCENTRATION (SPECIFY UNITS)	DETECTION LIMIT	перепенсея
	C) Aquocus C) Sedment C) Other	☐ Roloase ☐ Fishery ☐ Drinking water ☐ Sensitive environment ☐ Dislance from PPE					
	☐ Aqueous ☐ Sodiment ☐ Officer	☐ Release ☐ Fishery ☐ Drinking water ☐ Sensitive environment ☐ Distance from PPE		\\			
	G Aquirous ☐ Sediment ☐ Other	☐ Release ☐ Fishery ☐ Drinking water ☐ Sensitive environment ☐ Stance from PPE					
	□ Aqueous □ Sodment □ Officer	☐ Rolease ☐ Flahery ☐ Drinking water ☐ Sensitive environment ☐ Distance from PPE					·
	☐ Aqueous ☐ Sedment ☐ Other	☐ Rolonse ☐ Fishery ☐ Drinking water ☐ Sensitive environment ☐ Distance from PPE	,	,			
	☐ Aqueous ☐ Sediment ☐ Other	☐ Rolease ☐ Fishery ☐ Orinking water ☐ Sensitive environment ☐ Distance from PPE					
. ,,	C) Aqueous C) Sodiment . C) Other	☐ Roloase ☐ Fishory ☐ Drinking water ☐ Sensitive environment ☐ Distance from PPE			,		, .
	☐ Other ☐ Sodiment	☐ Rolnase ☐ Fishery ☐ Drinking water ☐ Sonsitive environment ☐ Distance from PPE				·	
,	☐ Aqueous ☐ Sediment ☐ Other	☐ Rolease ☐ Fishery ☐ Drinking water ☐ Sensilive environment Distance from PPE					

÷

SI Data Summary	Si	51	Data	Summar
-----------------	----	----	------	--------

Site	Name	DL

SOIL	INF	ORM	ATION
------	-----	-----	-------

L				
1.	is surficial or soil contamination	n present at the	site?	
	☐ Yes ☐ No ☐ Uncertain but li			*
	☐ Additional sampling required			
	Is analytical evidence available?	☐ Yes Ø No	Reference(s)	DOE 1915
2.	is surficial or soil contamination  ☐ Yes ☐ No ☐ Additional same	n attributable to pling required (Re	the site?	
3.	is surficial contamination on th	e property and w	vithin 200 feet of a reside	ence, school, daycare
	center, or workplace?		NA ·	
	☐ Yes ☐ No ☐ Uncertain but li	ikely 🛭 Uncertair	n but not likely	
	☐ Additional sampling required			
	Is analytical evidence available?	☐ Yes ☐ No	Reference(s)	*
4.	Total area of surficial contamina	atton (HBS Section	on 5.2.1.2):	
••	· A Square feet		Reference(s)	UUS1995a
5.*	Attractiveness/accessibility of th	ne areas of obser	ved contamination (HRS S	Section 5.2.1.1). Check
	all that apply:	· ·	•	
	☐ Designated recreational area			
	☐ Used regularly, or accessible ar		onal area	
	☐ Moderately accessible with som			
	☐ Slightly accessible with some us	se		
	☐ Accessible with no use			*
	☐ Inaccessible with some use		•	
,	tnaccessible with no use	•	•	
	Reference(s) U.o.S	19950		

- Using Table SE-1, summarize analytical results detecting surficial contamination within 200 feet of a residence, school, daycare center, or workplace. Include and identify background sample results.
- 7. Using Table SE-2, summarize analytical results detecting surficial contamination within the boundary of a resource or a terrestrial sensitive environment. Include and identify background sample results if not listed in Table SE-1.
- 8. Population within 1-mile travel distance from site. Do not include populations from Table SE-1.

DISTANCE FROM SITE SOURCES	POPULATION
1/4 mile or less	1036
>1/4 to 1/2 mile	1.036
>1/2 to 1 mile	2071

Reference(s)

1801619

USDOC 1990

	•		Site	NameDL	
Describe predominant				HRS Section 4.1.2.1.	2.1.2).
<u>:                               </u>	Wedium tex	tured Sor	15		
	000 0.1	200		,	
Reference(s) 40	CFR, Part	<u> 500</u>			
2-year 24-hour rainfall	(HRS Section 4.1	.2.1.2.1.2):		Reference(s) Î	unne & leoped
Elevation of the botton ~ <u>US15</u> feet abo		ace water bo	ody:	Reference(s) _	V0519960
Elevation of top of upp	•			Reference(s) <u>(</u>	1)051995
Predominant type of winearest drinking water Aiver Lake	Intake:	•	•	Reference(s)	margo morts
downstream.	ter Intakes, fishe	ries, and se	nsitive ei	ivironments within	15 miles
TARGET NAME/TYPE	WATER BODY TYPE	DISTANCE FROM PPE	FLOW (CFS)	TARGET CHARACTERISTICS'	TARGET SAMPLED?
rentional fisher	g River	0-15,n	822	Stocke of game species of native spis (Mento ARR 500 SW Dathway)	<u> </u>
etlands	River	0-15mi	822	No NWI maps available	Y
	eter intake, provide	e number of p	beople se	rved by intake.X	

	lone
Reference(s)	Durango Public Works 1996
•	
.*Surface water re	sources within 15 miles downstream (HRS Section 4.1.2.3.3):
	esources within 15 miles downstream (HRS Section 4.1.2.3.3):
☐ Commercial liv	estock watering
☐ Commercial liv ☐ Ingredient in or	
☐ Commercial liv ☐ Ingredient in α ☐ Major or design ☐ Water designat	estock watering ommercial food preparation nated water recreation area, excluding drinking water use ted by the state for drinking water use but is not currently used
☐ Commercial liv ☐ Ingredient in α ☐ Major or design ☐ Water designat	estock watering commercial food preparation nated water recreation area, excluding drinking water use ted by the state for drinking water use but is not currently used or drinking water but no drinking water intakes within 15 miles downstream

Include and identify background sample results.

### TABLE GW-2: ANALYTICAL RESULTS FOR GROUND WATER PATHWAY

SAMPLE ID & DATE	TYPE OF WELL	SCREENED INTERVAL	NAZARDOUS SUBSTANCE	CONCENTRATION (SPECIFY UNITS)	DETECTION LIMIT	NEFERENCES
	☐ Irrigation ☐ Monitoring ☐ Drinking water People served ☐ Other				/	
·	☐ Irrigation ☐ Monitoring ☐ Drinking water Poople served ☐ Other	·				
*	☐ Irrigation ☐ Monitoring ☐ Drinking water People served ☐ Other					
	☐ Inigation ☐ Monitoring ☐ Drinking water People served ☐ Other					
	☐ Irrigation ☐ Monitoring ☐ Drinking water People served ☐ Other					,
	☐ Infgation ☐ Monitoring ☐ Drinking water People served ☐ Other					
	☐ brigation ☐ Monitoring ☐ Drinking water People served ☐ Other				·	
	☐ Irrigation ☐ Monitoring ☐ Drinking water People served ☐ ☐ Other ☐	·				

## SURFACE WATER INFORMATION

Complete this section of the data summary for each watershed if there are multiple watersheds. Photocopy this page if necessary.

-	Surface water	drains from	the six to the east to the
-	animas River an	d compuses -	the extent of the 15-mil
	downstream targ	•	
-	Reference(s) . USBS	19036	
2.	Is surface water contamina  Signal Yes   No   Uncertain it Is analytical evidence availab	but likely.   Uncertain be	ut not likely   Additional sampling required .  Reference(s)   ARR deference
3.	Is surface water contaminated Yes □ No □ Additional		Reference(s) <u>GRR</u>
4.	Floodplain category in which		
5.	Describe flood containment	for each source (HRS	Section 4.1.2.1.2.2):
	Source #1 Slig pile	Flood containment	Buries with backfill
	Source #1 Slig pile  Source #2 NA	Flood containment Flood containment	Buries with backfill
		· <del></del>	·
	Source #2 NA Source #3	Flood containment	·
	Source #2 NA	Flood containment	·
	Source #2 NA Source #3	Flood containment Flood containment Flood containment Flood containment Flood containment	·
	Source #2 NA Source #3 Source #_	Flood containment Flood containment Flood containment	·
	Source #2  Source #2  Source #_  Source #_  Source #_	Flood containment Flood containment Flood containment Flood containment Flood containment Flood containment	·

7.* Size of drainage area (HRS Section 4.4.3): __

__ Acres

Reference(s) <u>IJSGS 1994</u>

Site Name	DL

#### TABLE GW-1: SITE GEOLOGY

	NAME OF FORMATION :	INTER- CONNECT? (yes/no)	TYPE OF MATERIAL	AVERACIE THICKNESS (FEET)	HYDRAULIC CONDUCTIVITY (CM/SEC)	USED FOR DRINKING WATER?
1.	alluvium	у	sand 4 gravel	15	7 x 10 3 cm/se	. N
2.	Colluvium	У	poorly sorted silty soil	25	10 cm/sec	N
1.	Wancos Shale	N	low-pernerbill bedrock	1,700	10 cm/sec	N
4.						<u>.</u>
5.						
đ.						

Reference(s)	Locales 19	95; Office	of the	Reduced Register 1	990
•	•	•	U	,	•
Does a karst aquite	r underlie any	site source	?	•	1100 1000
☐ Yes 💢 No	•			Reference(s)	UOS 19950

- 10. Depth to top of aquifer: ~ 10 feet Elevation: ~ 1510 Reference(s) U05 1995 a
- 11. In the table below, enter the number of people obtaining drinking water from wells located within 4 miles of the site. For each aquifer, attach population calculation sheets. Key aquifer to formations listed in Table GW-1.

#### POPULATION SERVED BY WELLS WITHIN DISTANCE CATERGORIES BY AQUIFER

DISTANCE OF WELL(S) FROM SITE SOURCES	AQUIFER A: INCLUDES FORMATIONS 1. 2. 3	AQUIFER B: INCLUDES FORMATIONS	AQUIFER C: INCLUDES FORMATIONS NA
1/4 mile or less	8		
>1/4 to 1/2 mile	8		<u>'</u>
>1/2 to 1 mile 1	8		
>1 to 2 miles	24	7	
>2 to 3 miles	21		
>3 to 4 miles	190		1.

Reference(s) DOE 1995; State Engineers Office 1996; USDOC 1990

12. Is ground water	from multiple wells	blended prior to dist	ribution?	
□ Yes 🔉 No	•	•	Reference(s) Durane,	ofublic NoKS1991

9.

SI Data Summary	Site Name
13. Is ground water blended with surface water? ☐ Yes ☑ No	Reterencé(s) Durango fublic Work
Briefly describe: NA	·
14. Distance from any incompletely contained source av drinking water well (HRS Section 3.3.1): 1,320	
15. Briefly describe standby drinking water wells within	4 miles of sources at the site:
None	
Reference(s)	
<ol> <li>Using Table GW-2, summarize ground water analytic include and identify background ground water sample re-</li> </ol>	
17.* Ground water resources within 4 miles of site sources Irrigation (5-acre minimum) of commercial food or commercial livestock watering ☐ Ingredient in commercial food preparation ☐ Supply for commercial aquaculture ☐ Supply for major or designated water recreation area, ☐ Water usable for drinking water but no drinking water ☐ None of the above	excluding drinking water use
Reference(s) D05 1945	
18. Wellhead protection area (WHPA) within 4 miles of si  ☐ Source with non-zero containment factor value lies with ☐ Observed ground water contamination attributable to si ☐ WHPA lies within 4 miles of site sources ☐ None	hin or above WHPA
Reference(s)	
Additional ground water pathway description:	·
Refer to Section 1.0;	groundwater Pathway
	/
100	
References(s) <u>IRR</u>	

		r	٠.			4			
SI	Data Summary					Site Name	· DL		
5.	Description of remo	val or	remediai	activities			•		
	If a removal has occudate(s) of the removal	al.			-	•		•	
,	Refer	to	Sec.	3.2:	Site	History	and	Anenous	
	•			· · · · · · · · · · · · · · · · · · ·		History	/	Work.	
			,						
					,		•		
		1 1		;					
		,					<del></del>		
					,				
				***************************************	-				<del></del>
		,		•				***************************************	
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Reference(s)

are

SI	Data	Sum	mary
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Site Name
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	GROUND WATER INFORM	IATION	<del></del>
	round water drinking water use within 4 miles of site sou Municipal □ Private □ Both ☑ No Drinking Water L		
Re	eterence(s) <u>Dinanée fubric Work</u>	519960	
	ground water contaminated?  Yes  No  Uncertain but likely  Uncertain but not likely  Additional sampling required  analytical evidence available?  XYes  No		DOE 1995
İs	ground water contamination attributable to the site? Yes □ No □ Additional sampling required		DOE1995
*			
	and the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second o		•
	e drinking water wells contaminated? Yes 区No □ Uncertain but likely □ Uncertain but not like Additional sampling required analytical evidence available?	•	DOE 1995
ls :	Yes Ano Uncertain but likely Uncertain but not like Additional sampling required	Reference(s)	
Is:	Yes No Uncertain but likely Uncertain but not like Additional sampling required analytical evidence available? A Yes No	Reference(s)	Univ. of Delas
Is Ne	Yes No Uncertain but likely Uncertain but not like Additional sampling required analytical evidence available? A Yes No et precipitation (HRS Section 3.1.2.2): 1.61 inches	Reference(s) Reference(s) Peference(s)	Univ. of Delas
Is Ne	Yes No Uncertain but likely Uncertain but not like Additional sampling required analytical evidence available? A Yes No et precipitation (HRS Section 3.1.2.2): 1.61 inches ounty average number of persons per residence: 2.56 scuss general stratigraphy underlying the site. Attach skill Refer to Sec. 3.3.2; Geology.	Reference(s) Reference(s) Peference(s)	Univ. of Dela. USDOC 1990
Is Ne	Yes No Uncertain but likely Uncertain but not like Additional sampling required analytical evidence available? A Yes No ort precipitation (HRS Section 3.1.2.2): 1.61 inches ounty average number of persons per residence: 2.56 scuss general stratigraphy underlying the site. Attach skills	Reference(s) Reference(s) Peference(s)	Univ. of Delau USDOC 1990
Is Ne	Yes No Uncertain but likely Uncertain but not like Additional sampling required analytical evidence available? A Yes No et precipitation (HRS Section 3.1.2.2): 1.61 inches ounty average number of persons per residence: 2.56 scuss general stratigraphy underlying the site. Attach skill Refer to Sec. 3.3.2; Geology.	Reference(s) Reference(s) Peference(s)	Univ. of Dela. USDOC 1990
Is Ne	Yes No Uncertain but likely Uncertain but not like Additional sampling required analytical evidence available? A Yes No et precipitation (HRS Section 3.1.2.2): 1.61 inches ounty average number of persons per residence: 2.56 scuss general stratigraphy underlying the site. Attach skill Refer to Sec. 3.3.2; Geology.	Reference(s) Reference(s) Peference(s)	Univ. of Delas
Is Ne	Yes No Uncertain but likely Uncertain but not like Additional sampling required analytical evidence available? A Yes No et precipitation (HRS Section 3.1.2.2): 1.61 inches ounty average number of persons per residence: 2.56 scuss general stratigraphy underlying the site. Attach skill Refer to Sec. 3.3.2; Geology.	Reference(s) Reference(s) Peference(s)	

8. Using Table GW-1 (next page), summarize geology underlying the site (starting with formation #1 as closest to ground surface). Indicate if formation is interconnected with overlying formation.

<b>S1</b>	Data	Summary
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Site	Name	DL
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4. Source characterization (Attach pages to show quantity and calculations.)

· · · · · · · · · · · · · · · · · · ·		•	
Source 1 name: Slag File  Describe source: Nesidual St  Ground water migration containment:		Source type	ile
Describe source: Nesidual St	as pile; byp	oduct of lea	ed Sine He
		·	<del></del>
Surface water migration containment:	Buried wit	4 fill dict	and cipras
Surface water migration containment: Air migration (gas and migration) containment	ent: Buned v	ith fill dirt	<u> </u>
Physical state of wastes: Diliquid So So Constituent quantity of hazardous substand Wastestream quantity containing hazardou Volume of source (yd²): 200,000	lid Sludge/Slumy les: s substances:	□ Gas □ Unknown	(specify units)
Hazardous substances associated with sou	ırce 1:	٠,	••
Refer tables 2-5		·	
Reference(s) <u>VOS (996 a</u>	: ORR data	· · · · · · · · · · · · · · · · · · ·	
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Source 2 name:		Source type	
Describe source:	<del></del>		
Ground water migration containment:		·	
Surface water migration containment:		***************************************	<del></del>
Air migration (gas and migration) containme	ent: /		<u> </u>
Physical state of wastes:   Liquid   So Constituent quantity of hazardous substance   Wastestream quantity containing hazardous   Volume of source (you):	es: substances:		(specify units)
Hazardous substances associated with sou	rce 2:		•
	)		
Reference(s)		•	•

### SI Data Summary

Site	Name	DL
JIIE	Name	

## CONTINUATION PAGE FOR SOURCE CHARACTERIZATION

Wastestream quantity containing hazardous substances:  Volume of source (yd²):	Source # Name NA Source type	
Surface water migration containment:  Air migration (gas and migration) containment:  Physical state of wastes:	Describe source:	······································
Air migration (gas and migration) containment:  Physical state of wastes:	Ground water migration containment:	
Physical state of wastes:   Liquid   Solid   Sludge/Slurry   Gas   Unknown   Constituent quantity of hazardous substances:   (specify units)   Wastestream quantity containing hazardous substances:   (specify units)   Volume of source (yd³):   Area of source (it²):   Hazardous substances associated with source #:    Reference(s)   Source type	Surface water migration containment:	
Constituent quantity of hazardous substances:  Wastestream quantity containing hazardous substances:  Volume of source (yd²):  Hazardous substances associated with source #:  Reference(s)  Source # Name	Air migration (gas and migration) containment:	
Reference(s)  Source #Name	Constituent quantity of hazardous substances:  Wastestream quantity containing hazardous substances:	_ (specify units) _ (specify units)
Reference(s)  Source # Name	Hazardous substances associated with source #:	
Source # Name Source type  Describe source:  Ground water migration containment:  Surface water migration containment:  Air migration (gas and migration) containment:  Physical state of wastes:	<del> </del>	
Describe source:  Ground water migration containment:  Surface water migration containment:  Air migration (gas and migration) containment:  Physical state of wastes:	Reference(s)	
Describe source:  Ground water migration containment:  Surface water migration containment:  Air migration (gas and migration) containment:  Physical state of wastes:   Liquid   Solid   Sludge/Slurry   Gas   Unknown   Constituent quantity of hazardous substances:   (specify units) Wastestream quantity containing hazardous substances:   (specify units)		
Ground water migration containment:  Surface water migration containment:  Air migration (gas and migration) containment:  Physical state of wastes:	Source # Source type	
Surface water migration containment:  Air migration (gas and migration) containment:  Physical state of wastes:	Describe source:	
Air migration (gas and migration) containment:  Physical state of wastes:	Ground water migration containment:	
Physical state of wastes: Liquid  Solid  Sludge/Slurry  Gas  Unknown  Constituent quantity of hazardous substances: (specify units)  Wastestream quantity containing hazardous substances: (specify units)	Surface water migration containment:	
Constituent quantity of hazardous substances: (specify units)  Wastestream quantity containing hazardous substances: (specify units)	Air migration (gas and migration) containment:	
	Constituent quantity of hazardous substances:  Wastestream quantity containing hazardous substances:	_ (specify units) _ (specify units)
	Hazardous substances associated with source #:	
Hazardous substances associated with source #:		
	Reference(s)	

•	ame <u>Durango Lead Sonette</u>
Site Name Durango Lead Smelter (DL)	EPA Region 8 Date 8/90
Contractor Name or State Office and Address URS Open 1099 18th Street, Stute 710, Denver,	cating Services, Inc.
GENERAL SITE INFORMATION	
1. CERCLIS ID No. <u>CO GOO 1399 633</u>	
Address 3E-1/4 S.30, T.35N., R9W. of Quadrangle City	Durango
1 01 1 0 -	Congressional District <u>667</u>
2. Owner name CDPHE Operator name	same.
Owner address 4300 Cherry Creek Dr. S. Operator address	ss
city <u>Denver</u> State <u>CO</u> city	State
3. Type of ownership (check all that apply):  ☐ Private ☐ Federal/Agency	County
4. Approximate size of property:	Reference(s) DOE 1995
5. Latitude 37 • 16 · 03.00 N Longitude 107 • 53 · 00 · 00 · W	Reference(s) USGS 1963B
6. Site status: ☐ Active ▼ Inactive ☐ Unknown	Reference(s) Smu th 1980
7. Years of operation: From: 1882 to: 1935  Unknown	Reference(s) Smith 1980
8. Previous investigations:	
Type Agency/State/Contractor Date	
PA DPA/ VOS 3/910	Reference(s) <u>VOS 1996</u> 6
SIFFE EPA UDS 4/96	Reference(s) <u>Vas 1990</u> a
	Reference(s)
	Reference(s)
	Reference(s)
	Reference(s)

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Site Name	,DL
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# WASTE SOURCE INFORMATION

1.	Waste source types (check all that apply)
••	□ Constituent □ Wastestream (type) □ Landfill □ Drums □ Contaminated soil □ Land treatment
	☐ Tanks or non-drum containers (type)
	Reference(s) CDfHE 1994
2.	Types of wastes (check all that apply)
	☐ Organic chemicals ☐ Inorganic chemicals ☐ Municipal wastes ☐ Radionuclides ☑ Metals ☐ Pesticides/Herbicides ☐ Solvents ☐ Other
	Reference(s) CDPHE 1996; ARR data
3.	Summarize history of waste disposal operations:
	Refer to Sec. 3.2; Site History and Previous Work
,	Reference(s)OLF

# APPENDIX D

Validation Reports and Laboratory Data (under separate cover)